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THE  
SPIDERS OF DORSET.

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VOL. I.

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THE  
SPIDERS OF DORSET,

WITH AN APPENDIX CONTAINING SHORT  
DESCRIPTIONS OF THOSE BRITISH SPECIES  
NOT YET FOUND IN DORSETSHIRE.

BY THE  
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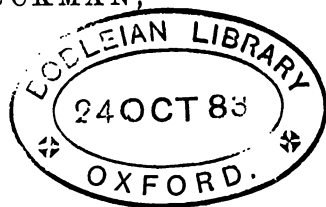
FROM THE  
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AND ANTIQUARIAN FIELD CLUB,"

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## PREFACE.

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The first idea of the present work embraced merely a list of the Spiders of Dorsetshire, compiled from notes and observations during the last twenty years, and including simply the time and locality of capture. On second thoughts such a bare list appeared to be rather too formal and uninteresting, and not likely to be very useful; it therefore gradually expanded until, before the task had been proceeded with very far, it was determined to give some of the leading characters of each spider, so that the list might form a kind of handbook from which a collector or student of spiders might be able to identify most of those met with in the county. As the work has gone on it has been found advisable to make the descriptions, especially where the species are nearly allied to each other, rather fuller, and perhaps a little more formal. This modification in the plan of the work will account for the earlier descriptions being often less full, and less precise than the later ones. A further modification was determined upon when it was ascertained that the spiders found in Dorsetshire included upwards of two-thirds of those as yet known to be British. It was thought then that by the addition of a not very extensive appendix, those spiders not yet found in Dorsetshire, but many of which will doubtless some day be met with there, might be included in a supplemental list, with a short diagnosis of each species. The present monograph, therefore, will include all the known British spiders; and will, it is hoped, materially assist future collectors in the determination of any new additions they may make to our County List; the more especially as, at present, there is no work in which all our known British spiders are included. The large folio volume of Mr. Blackwall, published in 1861-4, records 304 species; the present work already includes

510; and fresh additions are constantly being made to this total by myself and others.

The primary object of the work, however, is to give an account of *Dorset* spiders. Now local lists are of chief value, when the locality has some well-defined natural boundaries, and has been fairly well searched. The former can scarcely be predicated of the County of Dorset; it is not divided from the neighbouring counties by any very well defined natural limits, nor can its *whole* area be said to have been well searched in respect to spiders; and yet, if I mistake not, the present list will be found in future to represent very fairly the spider-population of the County; because those parts of it which have been best worked, include (in respect to soil) its three principal districts—the *Chalk* and *Limestone*, the *Heath*, and the *Clay*. It is in the first two of these districts that we find the most peculiar entomological fauna; and very many of the spiders found in them are also more or less peculiar and local.

As a matter of fact by far the greater part of the known spiders of Dorset have been found in the parish of Bloxworth, and its immediate neighbourhood; the rest (with a very few exceptions) have been obtained in the Isle of Portland.

The parish of Bloxworth forms a long strip of land about  $3\frac{1}{2}$  miles in length by about  $1\frac{1}{2}$  in breadth, running lengthwise due north and south. The southern extremity of this tract of land (taking it roughly in three, about equal, portions) consists of sandy and gravelly heath, with a considerable mixture of marsh and bog land. The central portion is a clay loam, with a large amount of wood and coppice land; and the northern division is loam upon chalk. These three districts are similarly continued on each side of Bloxworth, east and west, for many miles. The Isle of Portland, being of the limestone formation, produces, as a general rule (and making allowance for its sea-board), the insects and spiders peculiar to the chalk districts.

Out of the 510 species of spiders at present known to inhabit Great Britain and Ireland 358 have been found in Dorsetshire. Of the remaining 152, nine only have been recorded in Ireland,

and several others are, at present, doubtful species. The very large proportion of British spiders found in Dorsetshire is, no doubt, partly due to the three distinct varieties of soil mentioned above, and of which the Bloxworth district is a typical example; in a great measure it is due, perhaps, to Dorsetshire having been more thoroughly worked than any other, equally limited, portion of the British Islands. To this cause is, doubtless, due the large number of species—about 84—which have, as yet, only been found in this county. Many of them will scarcely fail to turn up in the adjoining counties, and perhaps also in more distant ones, when these come in for a fair share of working in this branch of Natural History.

The Island of Portland boasts, at present, about 17 species peculiar to itself—so far at least as Great Britain is concerned—and, of these, *three* have not as yet been found anywhere else. Out of those above-mentioned as peculiar to Dorsetshire, about 47 are yet unrecorded on the continent; and out of the whole 510 British spiders about 128 still remain unrecorded excepting in Great Britain.

Examples of fourteen out of the fifteen Families of spiders represented in Britain are found in Dorsetshire; and these fourteen Families comprise 74 genera, as against 83 represented in Britain.

It should be remarked here that the following descriptions by no means exhaust the characters of the different spiders. For the sake of brevity only those characters are usually given, which have been considered sufficient fairly to describe the spider, and, where necessary, to distinguish it from its nearest congeners. The descriptions of new species are, of course, given with greater detail than those of spiders already known.

With regard to the synonymic references which precede the descriptions, the quotation of all those that are at present ascertained would have been, of course, out of the question. Many species have from fifteen to twenty, and even more; and the insertion of all these would have too greatly increased the bulk of the monograph, besides being out of place in a work of this

nature. I have, therefore, as a rule, merely inserted, in each instance, a reference to the author to whom the recognized name of the spider is due. In some instances, however, when that author is an old one, and his works not likely to be got at readily, then a reference is also made to the more modern author by whom the spider has been either described, or figured, or both.

Besides the works of Mr. Blackwall and others, so frequently referred to in the following pages, those who desire to enter minutely into questions of synonyms, will find the "Remarks on Synonyms of European Spiders," by Dr. T Thorell, of Upsala, Sweden (in one vol., published in 1869), a work not only of prime authority on points of synonymic reference, but also on numberless other interesting and important points, relating to the specific distinctions of many of our nearly allied species.



## INTRODUCTION.

### What is a Spider?

The existing state of popular knowledge, in respect to spiders, is, probably, pretty correctly indicated in an answer made to me by a friend, that "he knew of *four kinds only*—the *Red Spider*; the *Harvest Spider*; the *Garden Spider*; and the *House Spider*." This answer showed a very common misconception, not only as to the number of species of spiders, but also as to what is really a *Spider*; for, unluckily, the first two of the little creatures mentioned are neither of them spiders, *sensu stricto*; on the contrary, they belong to two collateral ORDERS; the first to the Order *Acaridea* (which includes the cheese-mites and numberless other microscopic species), the second to the Order *Phalangidea*. Without pretending therefore to enter very minutely into structure, or anatomical details, either external or internal, many of which would be quite out of place here, it yet seems advisable to precede the descriptions of our numerous Dorsetshire spiders by a short account of what *is* a spider, and what a spider *is*; so that those creatures which are not really spiders, although popularly included under that name, may be dismissed, for the present at least, from our minds.

### Prejudice against Spiders. Origin of the Name Spider.

A great deal of ignorance and misconception undoubtedly prevails about spiders; as well as very much unreasoning dislike of them. The dislike probably arises, in a great degree, from this ignorance, and also, in some measure, from a certain sinister look that they seem, in many minds, to possess. It has been suggested to me, too, that their very name has a sinister sound and appearance. So far as this may be true, I suppose it arises from those letters in the name which give it a kind of hissing, or spiteful sound; just as the same letters appear to do in the word *wasp*. But, however that may be, the derivation of the word *spider*



ought to banish at once from every mind any sinister idea. We may, I think, dismiss altogether the fanciful interpretation by which the name *spider* was once derived from "spy-door" (spydor), in allusion to a, supposed general habit of spiders lying on the look-out in their webs spun in the angles of a doorway. Its real derivation is, without a doubt, obtained from the habit of spinning silken lines; an unvarying character of the whole ORDER to which spiders belong. Hence the Swedish name *Spindlar* or "the Spinner." The name is also essentially the same in German, and other Teutonic languages. From *spindlar* we get *spider* at once, by the simple and natural elision of the *s* and *l*.

With regard to the sinister look of a spider, it is, I think, only through ignorance and prejudice that spiders could be viewed in that light. Where is the object which does not become beautiful when seen through the medium of intelligent enquiry? Is this too philosophic an idea for our every-day world? If so then, at least, let me say that among spiders we find not only elegance of form, and many curious and complex structures (some wonderfully adapted to their mode of life, others still unexplained), but great beauty, both of actual colouring and its distribution; forming patterns of great variety, and striking contrasts of colour. The descriptions of many even of our British spiders will exemplify this; while among exotic species there are numerous examples of richness and brilliancy of colouring, equal to almost anything found in the insect world.

The carnivorous habits of spiders are repulsive to some minds; and hence comes another source of dislike; but with what amount of sense or reason? A correspondent in the *Dorset County Chronicle*, some little time since, included spiders in a sweeping clause as, by common consent, disgusting creatures, chiefly owing to their habit of preying upon others; and spoke of the study of spiders as though it were unworthy the time or attention of a rational being. I know not how wide-spread these opinions may be; but, at any rate, it is scarcely consistent in

mutton-and-beef-eating creatures to abuse the poor spiders for doing not only what they themselves do, but also for doing a good turn by lessening the numbers of some of the greatest, among the minor torments of human life—gnats, flies, and mosquitos. The same correspondent recommended as a worthier study, and a higher theme for the pen, “the little busy bee, and the pretty, innocent singing birds.” I presume that he, or she, must have been quite ignorant of such episodes in bee-life as the ruthless massacre of the male bees, when their services are no longer required; and certainly the joyous song-thrush could never have been seen in the act of immolating snails on the sacrificial stone, or tugging the unwilling worm from its mother earth, with the nibbling process of dismemberment which invariably follows!

Well! let us hope that the busy bee and the singing birds have, since then, been really studied, and with a less prejudiced mind, and if so we may be sure the crafty and (it may even be admitted) blood-thirsty spider will become an object of less disgust—may be, of some rational interest.

#### Difference between Spiders and Insects.

A spider then is a creature that spins—a *Spinner*; not like a silkworm, through its mouth, but by means of special external organs—*spinnere*—placed at the hinder extremity of the abdomen (pl. i., figs. 2gg, 6, 10, 11d). A spider differs from all the insect tribes in not undergoing any metamorphosis; it is a *spider* from first to last, and merely undergoes several moultings or castings of the skin as it goes on, after its first exclusion from the egg, to maturity. The body is divided into *two*, instead of (as in insects) three, visibly distinct parts. These parts are in insects—the caput, thorax, and abdomen; but in the spider the caput and thorax, with its several segments (called the *cephalo-thorax*), are soldered together. The grooves or indentations denoting the once separate portions are, however, almost invariably more or less visible; and the abdomen is joined to the cephalo-thorax by a short pedicle, through which the various organs of the former are connected with those of the

thoracic portion. The eyes, too, are all simple; thus differing remarkably from the compound eyes of the Insecta; and the *legs* (*six* in the insect tribes) are always *eight* in the spider.

#### Differences Between Spiders and Other Arachnids.

The different characters above detailed are easily observed, and will furnish a ready answer to the question, "Spider or insect?" But as the various Orders of Arachnids—of which the spiders constitute one Order only—share, with modifications, in all those characters, one or two of the leading distinctions must be mentioned, by which a spider may be known either from the *Acaridea*—Mites—or the *Phalangidea*—Harvest-men—or from a Pseudo-scorpion—*Scorpionidea*—which are the only three Orders of Arachnids represented in Britain, besides spiders—*Araneidea*, *i.e.*, if we except the *Pycnogonidea*, marine animals, whose position is still questionable.

A spider can be distinguished at once from one of the *Acaridea* (or Mite-tribes), by the latter possessing a body, which consists, at first sight, of *one portion only*; the outer skin being continuous, and, in many cases, not showing, by even a suture, or groove, any division between the cephalo-thorax and abdomen.

From the *Phalangidea* (or Harvest-men), a spider may be recognised by the same general appearance in the former, as that presented by an Acarid; but although the body of a Harvest-man appears at first sight to consist of *one* portion only, the cephalo-thorax is, usually, distinctly defined by a transverse indentation, or groove; the abdomen is covered by a series of coriaceous, or somewhat horny, transverse folds, or plates; the eyes are (in all European species) *two only*, placed, one on each side of a tubercular eminence, near the fore extremity of the cephalo-thorax; and the legs are generally very long, and of extraordinary slenderness; the terminal joint being sub-divided into numerous minute articulations.

The *Pseudo-scorpiones* (or Cheliferæ), forming a sub-order of the *Scorpionidea*, are a small group of minute, but curious

Arachnids, resembling little scorpions without tails. They are found under logs of wood or stones, as well as among moss and rubbish, and frequently in company with spiders, from which their two, long, crab-like, forcipated claws (or palpi) in front of the legs, will serve to distinguish them at a glance.

Of the two remaining, terrestrial, Arachnidous Orders, *Solpugidea* and *Thelyphonidea*, we have no British representatives; they need not, therefore, be distinguished here from the spiders.

So far then as to *what is a spider*. We will now proceed to detail, rather more minutely, the different parts and organs in order to give some idea of *what a spider is*; and first of the

## EXTERNAL STRUCTURE.

### The Cephalo-thorax.

This consists of the head (*caput*) and thorax, united (pl. i., fig. 4); its integument is always, more or less, hard and corneous, and is marked with two oblique indentations towards its fore part, indicating a large, somewhat wedge-shaped portion, at the anterior extremity (pl. i., figs. 3*b* and 4*b*); this wedge-shaped portion is *the caput*; the distinctness, with which it is marked off from the rest (or *thorax*), is exceedingly variable, and its fore extremity is always, more or less broadly truncated, or rounded off. The thorax is marked with three or four grooves or indentations on each side (pl. i., figs. 4*c, d, e, f*, and 3*c, d, e, f*), varying in depth and completeness, but almost always traceable, and converging from near the margin to a point near the centre, where there is either a small linear furrow, a simple dilated depression, or sometimes a deep, curved, transverse indentation; this is called the *thoracic indentation* (pl. i., fig. 4*g*); the transverse, converging, lateral indentations indicate the four thoracic segments on each side. These segments and the caput are now soldered together; but, without a doubt, at one period of the spider's genealogical history all of them were separate from each other, and each was articulated to the thorax proper, the position of which is marked by the present thoracic indentation.

Besides these indentations, the cephalo-thorax is often marked

with either striae, punctures, or rugulosities, and is variously coloured; it is often smooth and glabrous, but, frequently, also clothed with spines, bristles, hairs, or downy pubescence, of different colours; forming a distinctive pattern, which usually follows the converging direction of the various indentations.

In numbers of *male* spiders, of various families and genera, the caput (especially the ocular region) is liable to excessive, and often quite eccentric development. This is carried to, perhaps, its greatest extent, among our indigenous spiders, in the genus *Walckenaëra*, where the eyes are thus thrust up (as it were) on more or less considerable, and variously shaped elevations and eminences (pl. iv., figs. 3 and 4). The females present little or no trace of this excessive development. If it be true that no natural development can exist, which is not of some benefit to the possessor, and which has not been produced by natural selection, these developments, confined thus to the male sex, and of no conceivable utility, are a puzzle to the rigid disciples of Darwin. My own opinion \* has long been that such developments (together with many others, peculiar to the male sex) are simply the results of the greater vital force or energy of the male organization; and are only kept in check by the hindrance and positive evil that they may bring with them to their possessors in the struggle for life. Of course, the operation of natural selection will come in, through the advantage given to individuals in which the vital force is the most powerful; and will thus indirectly tend to increase those developments which are, primarily, the result of that force.

#### The Eyes

Are placed at the fore part of the caput, sometimes in front of it, at other times on the upper surface; often partly in front and partly above (see various figures in pls. i.-v.). They are simple, immovable, six or eight in number in all the known British species, though a few exotics possess no more than two or four.

\* In a correspondence, several years since, upon this point, Mr. Darwin did not agree with my views upon it. Very lately, however, I have had the satisfaction of seeing those views stated and upheld by Mr. Alfred Russell Wallace, in his recent most interesting work, "Tropical Nature,"

Their disposition, though uniformly symmetrical, is exceedingly varied; they are very generally placed in pairs, and almost always present some modification of two transverse rows of four eyes each; and their size, both actual and relative, differs greatly. The portion of the caput occupied by the eyes is called the *ocular area* (pl. i., fig. 5a', a''); on some eccentric forms of this area (see above). The interval between the anterior row of eyes and the lower margin of the caput is called the *clypeus* (pl. i., fig. 5b'); and to the whole area, from the lower margin to the posterior eyes, is given the name of the *facial space* (pl. i., fig. 5c').

Spiders are in some measure compensated for inability to move the eyes, by having their visual axis variously directed, owing partly to the greater or less convexity of the surface of the ocular area, and partly to the presence of tubercles, upon or around which the eyes are seated: thus the eight-eyed spiders are frequently able to look eight different ways at once.

The eyes of spiders vary in shape as well as in colour; some are pearly white, others (in the same individual) are dark grey, and even black; while among the *Salticoides* eyes of most brilliant hues may be seen, showing the colours of the amethyst, emerald, opal, and other precious stones. Some (the greater part) are round, others are oval, and some of a sub-triangular, or irregular form. Mons. Eugène Simon (of Paris) calls the pearly white eyes "*les yeux nocturnes*," and the dark-coloured ones "*les yeux diurnes*;" laying great stress upon the systematic value of the difference of function supposed to exist between these two kinds of eyes; but this value may well be questioned.

In certain spiders some of the eyes have a flattened and abortive appearance, and are probably, in such cases, of little, or perhaps no use for visual purposes. Examples have occasionally been met with in which one, or more, of the eyes is wanting. A very curious instance of this kind is at present before me, in an adult male example of *Tegenaria Derhamii*, Scop., received from Belfast. No outward trace of an eye is visible in this specimen, but I can discern a faint appearance of the four central ones

beneath the horny cuticle. It is quite possible, however, that these may have sufficed for vision, though, probably, in a very imperfect degree.

### The Legs.

These are articulated, four on each side, beneath the outer margin of the cephalo-thorax, to an either round, oval, oblong, or heart-shaped, corneous plate, called the *Sternum* (pl. i., fig. 2*d*) (in this figure the legs are truncated at the first joint).

The legs consist each of seven joints of different lengths (a very few exotic species possessing eight, owing to the subdivision of the tarsus or terminal joint). The following names are given to these joints in the descriptions in this volume (see pl. i., fig. 1, where, on one of the legs, the joints are numbered):—i., the *exinguinal*; ii., *coxal*; iii., *femoral*; iv., *genual*; v., *tibial*; vi., *metatarsal*; vii., *tarsal*.

The legs vary a good deal in their size and length, both absolutely and relatively; and the tarsi always terminate with either two or three curved claws, generally toothed or pectinated (pl. i., figs. 8*a* and 13*b*); usually the pectinations are confined to the two superior claws, but occasionally the inferior one also is toothed. The legs are clothed in various ways—with hairs, bristles, and spines (pl. i., figs. 1 and 9); in some spiders plumose hairs may be seen.

In some groups a longitudinal series of small, closely-set, curved, spine-like bristles, may be found on the metatarsi of the fourth pair of legs (fig. 9, *a*). This is called a *Calamistrum*, and is used for the purpose of carding or combing out from a special spinning organ (to be described presently) a peculiar flocculus of adhesive silk, which is disposed about the spider's snare, the better to entrap its prey. We are indebted to our countryman, the veteran Araneologist, Mr. John Blackwall, for the discovery of this portion of a spider's structure, as well as for our knowledge of its mode of employment and use. Beneath the tarsi (and sometimes the metatarsi) of many spiders is found a more or less compact clothing, often quite a pad or cushion, of close-set hairs, generally of a papilli form nature (pl. i., figs. 12,

12A); this is called a *scopula*, and is of use in enabling the spider to ascend *polished* surfaces, as glass, &c. And frequently there is, close beneath the tarsal claws, a compact tuft of hairs, the hairs often of a somewhat club-shape, or squamose nature—to this is given the name of *claw-tuft* (pl. i., fig. 13a); doubtless it is of use in enabling the spider to traverse uneven surfaces with the greater speed, and is most marked in spiders possessing two terminal claws only, if not entirely confined to them.

#### The Falces.

Immediately below the fore-part of the cephalo-thorax are the *Falces* (pl. i., figs. 3a, and 5a,a). These are two in number, and each consists of a strong basal joint articulated to the caput, either vertically, or on an inclined plane, or horizontally; moving accordingly, either up and down, or sideways. At the extremity of each is a strong, curved, pointed fang, articulated so as to close down, either in a line along the under side of the falx (pl. ii., fig. 2a), or along its inner side (pl. i., fig. 5b,c). Most commonly the fang is met by a longer or shorter row of teeth placed along the inner side of the falx (pl. i., fig. 5d,d), sometimes two rows of teeth are present, and occasionally there is an extra strong tooth in front of each falx. The falces are thus rendered most formidable weapons, more especially as each contains, inside, a hollow charged with a poisonous fluid, which is poured into the wound made by the fang, through a minute orifice near its extremity.

The falces are used not only for seizing and killing the spider's prey, but also for comminuting and compressing it so as to squeeze out the juices into the throat, which is situated immediately behind them.

By some physiologists the falces are considered to be the homologues of the antennæ of insects, abnormally developed and modified for the performance of a special function. The usual truncated form of the fore part of the caput is also considered to have arisen from the disappearance, through "Natural selection, of the fore part of the insect-caput, carrying away with it the two large compound insect-eyes, and leaving only those which now, in



the spider, are thought to represent the simple ocelli of the insect. For my own part, although fully persuaded of the extensive agency (among others) of "Natural selection," and of the truth of "Evolution" I cannot at present see sufficient grounds for the above hypothesis as to their effect in modifying what are now the falces and caput of spiders.

### The Maxillæ.

If a spider be laid on its back, two elongate pieces will be seen at the fore extremity, just behind the falces (pl. i., fig. 2, *a, a*, and pl. ii., fig. 2, *e, e'*) these are called *maxillæ*, or jaws, because they assist in the compression of the spider's prey, and in squeezing out its juices into the throat (or œsophagal tube). The maxillæ form the greater part of the posterior boundary of the mouth; they are variously formed, of great diversity in size, and constitute, in fact, the basal, or supporting joints, of

### The Palpi.

These are two in number, and stretch forwards immediately in front of the first pair of legs. Pl. i., fig. 1*a*, (male), and fig. 2 *o-h*. (female). Occasionally (in the Family *Theraphosides*) the palpi are used, in the female sex, as legs, but most commonly only as feelers. Instead of seven joints, like the legs, the palpi have but six, including the basal joint or maxilla. They are very varied in length and strength, and in the form of the joints (pl. i., figs. 1*a*, 15, 14, 7. Pl. ii., figs. 1*c*, 2*f*, and 6, represent the palpi of several different spiders). In all female spiders the extreme (or *digital*) joint is of simple form, generally ending with a single, curved, and sometimes pectinated claw. In some groups, however, this claw is absent. The last joint but one is called the *radial*, the next behind it the *cubital*, then the *humeral*, and the next (which connects the palpus with the maxilla) is called the *axillary* joint. The palpi (like the legs) are usually furnished with hairs, bristles, or spines, or with all or some of these.

In the male spider we observe a remarkable difference in the extreme (or *digital*) joint of each palpus; this, instead of being

simple, and no larger than the next joint, if so large, is of a tumid form, and when the spider becomes adult, *i.e.*, at its last moult, it develops into a more or less oval, sometimes very large, and generally concave, somewhat spoon-like joint; in the hollow, or to the under side of this joint, is fixed a curious structure, consisting of a corneous bulb, spines, processes, and lobes; sometimes their form is very simple, as in the *Theraphosides*, *Dysderides*, and some others (pl. ii., figs. 1c., 2f., and 6a., and pl. i., fig. 15c); but at other times it is very complex (pl. i., fig. 14c), and notably so in many species of *Linyphia*, as well as in some other genera. To this structure is given the name of *palpal organs*; they are, in fact, the external instruments by which the fecundation of the female spider is effected. The male spider (in a manner somewhat analogous to the deposition of the milt by the male fish) drops the fecundating fluid out of the secreting organs (which are situated beneath the fore part of the abdomen) upon a line of its web, or possibly on a leaf, or on some other substance. It then immediately imbibes or draws the fluid into the bulbous portion of the palpal organs by means of an appropriate duct, whose orifice is situated at the end of one of these prominent processes; through this it is again, subsequently, injected into the female organs, which are furnished with receptacles—Spermathecæ—for its retention for some days, or perhaps weeks, until required for use. In some instances the male spider probably imbibes the fecundating fluid into the palpal organs directly from the secreting vessels, but this has not yet been actually observed.

The variety in the form of the spines and processes, and in the structure generally of the palpal organs, is apparently without limit; and thence we obtain one of the most useful, and unfailing characters for the distinction of species. Other joints of the palpi also frequently present differences, and apparent eccentricities of structure. This is chiefly noticeable in respect to the *radial* joint, which is often furnished with variously formed spines and projections, or, as they are usually called, *apophyses* (pl. i., fig. 15b). These are also most important for the

determination of spiders, never being exactly alike in any two males of different species.

The development of the palpal organs is the sure criterion of maturity.

#### The Sternum.

This has already been mentioned as the plate to which the legs are articulated (pl. i., fig. 2*d*). It is usually flat or sub-convex; its shape is either round, oval, oblong, or heart-shaped, and it forms the under surface to the cephalo-thorax. At its fore extremity is a sort of narrow continuation of it, forming

#### The Labium.

This constitutes the completion of the mouth parts by stopping up the gap between the maxillæ (pl. i., fig. 2*e*). It is divided from the sternum by a groove or suture, but is never articulated to it. It is sometimes projected in the same plane as the sternum, but is more often set at a greater or less angle with it, following, in fact, the direction of the maxillæ and falces. The labium is of great importance to the spider, for without it the juices of its prey would escape, instead of being retained and guided into the throat, by the assistance of the "tongue" (a small obscure portion of structure immediately between the labium and falces). The length and form of the labium is different in different spiders; usually it is either semi-circular, sub-triangular, oblong, or quadrate; its apex is often pointed, and sometimes emarginate. Pl. ii., fig. 2*c*<sup>f</sup>., shows the labium of *Atypus*, and fig. 1*d* that of *Segestria*.

#### The Abdomen.

We come now to the second leading division of the spider's body—the *abdomen*. This is attached to the hinder part of the cephalo-thorax by a short, but distinct, sheath or pedicle. It is of diverse form in different spiders, round, oblong, globular, flattened, quadrate, or sub-triangular. Various humps, prominences, and other eccentricities of form are found on the abdomen in some exotic spiders, and, in a lesser degree, in several of our British species—*Cyclosa conica*, Pallas (pl. iv., figs. 6, 6*a*).

The cuticle of the abdomen is almost always continuous (*i.e.*, without folds or articulated plates), and is either soft or, at most, somewhat coriaceous or leathery in its texture. In some exotic groups, however, it is hard and corneous. The surface is sometimes smooth; at other times (and most frequently) it is clothed, more or less, with hairs, bristles, and downy pubescence. In the genus *Gasteracantha* and some other exotic spiders it is armed with strong spines. It has generally a distinct pattern upon it, formed either by colours and markings inherent in the cuticle, or else dependent upon the hues of its hairy clothing. In most cases the pattern on the upper side of the abdomen assumes some modification or other of the form of a central, longitudinal stripe on the fore part, followed by a series of transverse, curved, or angular lines, like circumflex markings, whose apices are directed forwards. The central stripe varies in its length, breadth, and form, but always indicates the position of an important internal organ, which, acting like the heart in the higher animals, receives the vital fluid, and propels it throughout the whole system. Probably the varied colour of this stripe depends on its immediate connection with the internal organ above mentioned.

In most spiders there may be observed some small impressed spots, or depressions, symmetrically placed on the upper surface of the abdomen. These are, apparently, different in number, and certainly different in size, in different groups of spiders; probably their number is, in reality, always the same, though not externally visible in all cases. In the family *Thomisidae* they are often very distinct, and five or seven in number; a single one occupies the middle of the fore-extremity, and is followed by two or three pairs of others; those of each pair being widish apart and forming a transverse line. These impressed spots indicate points where the cuticle adheres by muscles, to the internal organs. Although in most cases the epidermis of the abdomen is continuous, yet in one (exotic) genus, *Liphistius*, Schiödte, it is broken up into distinct, transverse, corneous plates united at their edges by a membranous fold. In some of even our own

indigenous spiders traces may be seen of transverse folds in the cuticle towards the hinder extremity. Probably the transverse curved, or angular lines above noticed, and which give to the hinder part of the abdomen of so large a majority of spiders, its distinctive pattern, are the lingering indications of obsolete folds. The traces of folds (as well as the corneous plates in *Liphistius*) in all probability point to the once segmented structure of the abdomen, and give us a clue to the origin of the distinctive pattern just mentioned.

At the extreme point of the hinder part is a single small nipple-like prominence (pl. i., fig. 10, *f*); in this is contained the anal orifice; and it was, doubtless, once the terminal segment of the segmented form of the abdomen.

#### Spinners.

Immediately below the anal prominence, is a more or less-closely compacted group of other nipple-like organs (pl. i., fig. 2, *g,g*, and fig. 10, *e,d,e,j,h,g*). These are, in all British spiders, six in number, with, in some families, a very short, broad, supernumerary one, generally divided by a cross-line, and placed immediately in front of the rest (pl. i., fig. 10, *a,b*). In some exotic groups the numbers are also two and four. These organs are the *spinners*, and they play a most important part in spider economy, forming also (as stated before), one of the leading characters of the order *Araneidea*.

The position of the spinners varies; usually they are of different sizes, lengths, and direction, varying from one to three joints. At their extremities, and sometimes along the under surface of the last joint, are many minute tubes (*spinnerets*), through which the silken lines issue; these lines are, in part, propelled at the will of the spider, and partly drawn from the spinnerets by external influences. The silk is secreted in the form of a gum-like fluid, in small bulbous-shaped organs, situated within the under surface of the hinder part of the abdomen. The silk emitted from the supernumerary organ above-mentioned is of a peculiar nature, and is drawn from it by means of the "calamistra," noted in describing the armature of the legs.

By means of this instrument the silk is carded or teased out, so as to become very flocculent and adhesive; it is then disposed about the lines of the snare for the purpose of entangling the spider's prey.

#### Spiracular Plates and Breathing Organs.

Beneath the fore extremity of the abdomen are two, generally very distinct, roundish or oval plates, placed in a transverse line, (pl. i., fig. 1, *e, e*, and fig. 11, *b, b*). In some spiders—*Theraphosides* and *Dysderides*—these are four in number, the two additional ones succeeding the others a little way towards the middle of the abdomen (pl. ii., fig. 2, *a', a', c', c'*, and fig. 1, *a, a, b, b*). At the posterior-margin of each of these plates is a transverse slit-like opening, leading to the main breathing organs, which are situated underneath. These organs are a modification of the tracheal system found in the *Insecta*. Instead of the air being taken (as in that class) into simple tubes from numerous external orifices, and so distributed over the body for the aëration of the vital fluid; it is taken in through the transverse slits, mentioned above, into a special breathing apparatus; thus localizing the main supply of air, in a way somewhat analogous to the action of the lungs of the mammalia, and thence aërating the vital fluid as it passes out of the dorsal vessel, or heart. There are, however, in many spiders, other orifices leading, probably, to simple air-tubes (or tracheæ) in different parts of the abdomen. One of the most noted instances of this, among British spiders, occurs in the genus *Anyphana* Sund. (pl. i., fig. 11, *c*.) Another remarkable instance is in the genus *Cambridgea*, L. Koch., found in New Zealand.

#### Genital Aperture.

One other portion of the abdominal structure must be shortly noticed—the genital or sexual aperture. This is situated exactly between the openings of the breathing apparatus, and leads to appropriate internal organs. In the male sex the fecundating fluid is secreted in these organs. The curious office of the palpi of male spiders, as instruments for the reception and application of this fluid, has been already described.

The external aperture (in males) is very minute, but in the female sex it is much larger, of very varied form, and frequently has a process of diverse shape and structure, in different species, connected with it; this process is also often of considerable length, and is probably of use in the deposition of the ova. The form and structure of the genital aperture, and its processes afford some of the most distinctive characters for the specific determination of female spiders; it is only visible as a distinct orifice when the spider has attained maturity, of which it is the unerring sign (see pl. i., fig. 2, *f*, and fig. 11, *a*; also plate ii., fig. 2, *b'*).

#### INTERNAL STRUCTURE.

In a monograph like the present, any lengthened details of the internal structure, or anatomy of spiders, would be out of place. Certain points have been already necessarily touched upon in explaining their external structure; it will, therefore, suffice here to refer to the internal organs in very general terms.

##### Organs of Digestion.

These consist of a large sac or stomach, furnished with short lateral branches, corresponding with the number of legs on each side, and placed within the cavity of the cephalo-thorax. The juices of insects, which form the spider's food, pass into this stomach from the mouth parts, or throat, through an oesophageal tube, and thence into the abdominal intestine, by means of a canal which runs through the pedicle connecting the cephalo-thorax and abdomen. At its hinder extremity this intestine empties itself into a large, rounded pouch or *rectum*, and thence all undigested matter is excreted through the anal orifice. There are also appropriate glands in the cephalo-thorax for the secretion of gastric juice, and others in the abdomen for the secretion of bile, appearing to subserve purposes similar to those effected by the analogous products of the stomach and liver in the higher animals.

##### Organs of Circulation.

Circulation is effected by means of a large, elongate, four-chambered vessel, running close beneath the cuticle, along the

middle at the fore part of the upper side of the abdomen, and called the "*Dorsal vessel*." In this vessel the vital fluid is collected, and thence circulated by a regular system of arteries and veins. The position of the dorsal vessel is almost always apparent on the outside (as before noticed) by an elongated stripe, or band, of varied form and colour.

### Organs of Respiration..

These have already been referred to. The more localized nature of the main breathing apparatus in spiders than among the *Insecta* plainly marks a progress to a higher type of organization; though the peculiarly *pulmonary* nature attributed to them, in most of the general works on Arachnida, appears calculated to mislead.

The respiration of spiders is, in fact, effected not by *pulmonary* organs, but by essentially tracheal ones, which may be described as consisting of both *Tracheæ* proper, and *Sac-tracheæ*. The latter form the principal breathing organs, their position being shown outwardly by the spiracular plates detailed above; they consist of a collection of flattened membranous sacs, enclosed within an outer membrane, and lying together somewhat like the leaves of a book. The air is collected in these *Sac-tracheæ*, and re-oxygenates the main body of the vital fluid in its passage through the dorsal vessel; while by the *Tracheæ* (properly so called) air is conveyed in small quantities to the vital fluid in various parts of the system. To any one familiar with the structure and functions of the lungs of mammals, the essential difference between them and the *Sac-tracheæ* of spiders will be obvious.

### Nervous System.

Spiders also possess a very perfectly organized nervous system. Within the fore-part of the cephalo-thorax is one main bilobed ganglion, or mass of nervous matter, emitting nervous threads to each of the eyes, falces, and labium; not far behind this, and continuous with it, is a still larger mass, from which nerve-threads issue to the legs and palpi; a fascia of the same nature



is continued to the abdomen, where it is subdivided, and branches out to all the different abdominal organs.

### Organs of Reproduction.

The situation of these, with their external form, has already been noticed. The internal parts of both male and female are very simple; in the former they consist of two long, narrow, convoluted tubes, and in the latter, of two elongated Ovaria, placed lengthwise within the ventral surface of the abdomen.

Near the external opening of the Ovaria, in the female, there are generally some (fewer or more) contortions corresponding to the more or less contorted, or complex, structure of the palpal organs of the male. It is through these contorted tubes that the fecundating fluid is passed, by means of the palpal organs of the male into the bulbiform reservoirs, or *Spermathecae*, of the female.\*

### Habits and Economy of Spiders. Their snares and mode of entrapping their prey.

Perhaps to most lovers of Natural History greater detail on this part of the subject would be acceptable; but even these interesting points can only be touched upon comparatively briefly here, especially as in the following descriptions the habits and economy of the different species (so far as known) are frequently referred to.

Evidently formed to prey upon other creatures (for, as yet, no instance is known of a spider feeding upon vegetable substances) and the majority of their prey being able to seek safety in flight or swiftness of foot, we find, as we should expect, spiders endowed with skill and craft rather than with great comparative strength.

There are several ways in which the rapacious portion of creation obtain their prey: *Firstly*, by running it down in fair

\* Those who desire to enter more minutely into the subject of the internal structure and anatomy of spiders may be referred to the works of Treviranus, Emile Blanchard, Philip Bertkau, and others. In regard to the mode of reproduction, the main facts at present known are very clearly stated and illustrated in a little work (vol. 2 of the "American Natural History series") lately published at Salem, Mass., U.S.A., "On the Habits and Structure of Spiders," by Mr. J. H. Emerton.

open course, which is not often adopted by spiders, though I have seen, now and then, some species of *Lycosa* do so; *secondly*, by searching about carefully, and, when the prey is descried, stopping short and leaping upon it. This is a method very commonly in use among the *Lycosides*, *Salticides*, and some few of the *Drassides*; *thirdly*, by lying in concealment until the prey comes within reach; thus spiders lie in wait, hidden, or partly so, among the petals, or other parts, of the bloom, of flowers, particularly those of a composite nature, and then seize the insects which come to suck the honey. Some spiders, especially among the *Thomisides*, who are much addicted to this last mode of replenishing their larders, have a habit of elevating, depressing, and moving their fore legs laterally to and fro. The tips of the legs, when thus protruding from among the petals of a flower in which the spider is concealed, bear a striking resemblance to the stamens and anthers gently moved by the wind. A friend of mine, who has noticed this, believes that it is done for the express purpose of attracting insects to the flower; but as the spider exercises the habit at other times, as well as when lying in wait for insects, this interpretation of the fact seems scarcely tenable; though, no doubt, the habit tends to the spiders' advantage by disarming suspicion on the insects' part.

Another method of entrapping their prey, adopted by some of the most extensive families of spiders—*Agelenides*, *Theridiides*, and *Epeirides*, as well as by some other spiders—is the spinning of snares in which the insects become entangled. This mode is so well known as scarcely to need mention. Everyone who has given even a cursory attention to spiders' webs will have observed the beautiful geometric wheel-like snares hung upon their suspensory lines over a ditch, or in gaps and openings among plants, bushes, and trees. The general plan of these snares consists of a number of lines radiating from a central point, and crossed, at more or less regular intervals, by others in a transverse direction, like the rounds of a ladder or the ratlines of a ship. The cross-lines are, in fact, formed by a single line passed round

and round from the centre in a spiral form; a large portion of it, towards the outer part of the snare, being thickly studded with very small globules of viscid matter, looking like little drops of dew; these serve to entangle the flies and other insects when they get into the web. The construction of this kind of snare is carried on, at times, very expeditiously. I have noted a geometric snare completely formed, from beginning to end, within half an hour.

Geometric webs are placed at different angles with the plane of the earth's surface, according to the species of the constructor, and are not all equally regular, or perfect; one of the most perfect, among British spiders, is that of *Cyclosa* (*Epeira*, Blackw.) *conica*, Pallas. (pl. iv., fig. 6), while one of the least perfect, among all spiders yet known, is that of *Hyptiotes cavata*, Hentz. —a North American species. A curious habit of this spider is noted further on.

The subject of web-spinning is one of the most interesting parts of the study of spiders, though a great deal of leisure and patience are required to carry out any extended observations upon it. It is wonderful to see the great mobility of the abdomen, by which the spinners are directed to any desired point. The legs, and, especially, the claws at the ends of the tarsi, play a very important part here also, enabling the spider to stretch, or to tighten its lines, and to gather them up when slack. Those spiders possessing *Calamistra* are further enabled to prepare (as before noticed) a peculiarly, flocculent, adhesive web from silk drawn out of the extra spinning organ, with which the *Calamistrum* is invariably correlated. The geometric snares above described give the name to the great Latreillean group of spiders "*Orbitelariae*."

The other great group of snare-spinners is that of the "*Retitelariae*," Latreille. These must also have been frequently observed by all, excepting the no-eyed part of mankind; their general plan consists of a more or less extended, horizontal sheet of thin web with numerous lines above and below, crossing and recrossing each other in all directions. The

*Linyphia* take up their station, in an inverted position, under this sheet; other spiders lie in wait at a little distance. The snare of a very common *Linyphia*—*L. montana*, Clerck.—may be seen in any box-bush, yew, or holly hedge in our gardens; it is the most perfect of its kind, 'and' is suspended by the opposed effect of the upper and lower lines; being also tightly braced down by vertical lines from the under side to the leaves and twigs below. I conclude that most of these snares are formed at night, inasmuch as I have frequently watched for a considerable period in day-time without ever having been able to observe the *modus operandi*. The snares of *Theridion*, and other allied genera, consist only of irregularly intersecting lines; that of the *Agelenides* is a more compact horizontal sheet, and in connection with it is constructed a tubular or funnel-shaped retreat, in which the spider lives. The most perfect snare of this sort is that of *Agelena labyrinthica*, (p. 67). Others of this group, belonging to spiders of the genera *Tegenaria* and *Amaurobius*, may be seen any day, in the angles of unused rooms, outhouses, and cellars.

Spiders lines may frequently be observed strained across open spaces, of sometimes many feet and even yards, in extent. This has been explained, by some naturalists, to have been done by the help of a current of air carrying the thread across. I cannot, of course, say that it never has been thus effected; though I have certainly never myself witnessed it. I have, however, on several occasions, seen a spider fix its line, then run down to the ground, across the intervening space, and so up the opposite side, trailing its line as it went; and then having hauled in the slack, it fixed the line to the desired spot. This I believe to be the usual mode of proceeding in such cases.

The expedition with which, when once set about, spiders construct their webs, has already been noticed, and it is again referred to in the description of *Linyphia triangularis* (p. 228). Other spiders are equally expeditious, and the knowledge of this is not without practical utility. A case once occurred in which the conviction or acquittal of a prisoner turned upon whether an

outhouse door had been fraudulently opened or not. The door itself was uninjured, and the prisoner was finally acquitted on proof that the keyhole on the morning of its examination was found covered with cobwebs; from this the Counsel for the defence argued that it could not possibly have been touched during the previous night, in which the alleged opening of the door had taken place. The defence would have fallen through at once had it been known that such webs might have been, and probably the one in question was, spun in the course of half an hour or less.

The skill and craft of spiders is also very evident in the way in which many of them deal with their prey when entangled, or otherwise captured. An instance of this is noted (p. 78) in respect to *Pholcus phalangioides*, which, like some other spiders, winds its prey up tightly with silken lines. Another spider, *Misumena vatia*, Clerck., lying in wait in the blooms of flowers, seizes the bees and other insects which frequent them. I once observed one of these spiders, lying in wait in a rose, capture a butterfly (*Lycæna phlæas*); which was seized and firmly held by the slender pedicle connecting the head and thorax—in fact by the neck—the very best point for overpowering it; on the same principle as that on which a bull-dog pins the bull by the nose, or a deer-hound the deer by the ear. This mode of seizure has also been adopted in all the instances that have come under my own observation, whether the prey were a butterfly, a bee, or any other insect.

Although exceedingly voracious, spiders are sometimes (when full-grown) able to endure long fasts with impunity. For an instance, in my own experience, of an eighteen months' fast, during which time the spider appeared to be strong and healthy. See Zoologist 1853, p. 3766. Mr. Blackwall (Spid. Great Brit. and Irel., p. 5) records a similar instance.

#### Spiders Nests and Egg Cocoons.

Although the two great groups of spiders mentioned above are the only ones in which *snare*s are spun to entrap their prey, all spiders can spin, and numbers form silken linings to holes in

the earth, or crevices in bark, rocks, walls, and posts; many make silken, tubular or other nests, as well as cocoons of various forms for the reception of their eggs. Some of the latter are exceedingly pretty objects, those, for instance, of *Agroëca brunnea*, p. 35, pl. ii., fig. 7a, and *A. proxima*, p. 36, pl. ii., fig. 7, as well as those of *Ero thoracica*, p. 233, pl. ii., fig. 8a, and *Theridion pallens*, p. 92, pl. ii., fig. 8. The egg cocoon of the *Lycosides* is either globular, or flattened at the poles; those of the *Drassides*, and of some of the *Thomisides* are lenticular. The spiders which spin tubular retreats are included in the group *Tubitelariæ*, Latreille. The *Dysderides* and *Drassides* belong to this group, while those which live in a cylindrical hole excavated in the earth, belong to the Latreillean group *Territelariæ*. In this last group are included the various species of trap-door spiders, to which we have no British representative, more nearly allied than the species of *Atypus* (pp. 2-4, pl. ii., fig. 2).

Spiders vary greatly in their relative fertility; and the rarity of some species is probably owing to their limited fecundity. Some produce a large number of eggs, others fewer; the cocoon of *Agroëca brunnea* contains about 40 or 50, that of *Ero thoracica* about a dozen, while that of *Oonops pulcher* is said to contain usually no more than two eggs. It is probable, however, that the same spider may construct more than one cocoon.

#### Gossamer Spiders.

The use of their silken lines for travelling through the air must not be passed over without remark. There is, I suppose, no one who has not observed the numerous silken lines, and small, white, flocculent, flake-like webs floating in the air—especially on a fine day in early autumn. These are almost all formed by the young of numerous species of spiders. Whenever and wherever they move spiders appear to leave a line or lines behind them; these lines trail along and adhere to every intervening object, or else float about, higher or lower, according to the density of the atmosphere; hence their common use as a local, and generally trustworthy, prognostic of the weather. The flake-like form of gossamer is produced by the aggregation

of numerous floating lines, and depends upon atmospheric conditions, being most common in early autumn, and only in very fine, settled weather. Both in autumn and spring (particularly the latter) there appears to be a great restlessness and moving about of immature spiders of many kinds, quite as difficult to be fully accounted for as the migrations of birds. On a bright, and tolerably still, spring morning, railings, especially those fencing a causeway across water-meadows and swamps (situations peculiarly prolific in spiders), and the parapets of bridges, are often thronged with individuals of numerous species, principally of *Lycosides* and *Theridiides*; these may be observed running up and down on the upper railing, elevating themselves on tiptoe, thrusting up the abdomen, and, with a small muscular effort, jerking themselves off, and floating away in the breeze on their silken lines, which may often be seen issuing from the spinners; the lines, in the first instance no doubt, are propelled from the spinner at the will of the spider, but are afterwards further drawn out by the influence of the current of air, and when sufficient line has been drawn out to float the aeronaut he gives a little jump and sets sail.

Spiders may sometimes be found adhering to the white flakes of web, or flocculi mentioned above, but this is not by any means usually the case.

From the few remarks here made on this part of the subject, it will be seen that the popular idea that gossamer is due to a particular *species* of spider called the "gossamer spider" is quite erroneous.

#### Some other uses of Silken Lines.

A very convenient use of the silk lines is made by one of our commonest "jumping spiders," *Epiblemum scenicum*, Clerck. This spider is found on perpendicular walls, and always has a line trailing behind it from the spinners, and adhering to the surface of the wall. The spider in this situation is thus enabled to leap from a considerable distance upon its prey, which it could not possibly do unless it had a line to bring it back again to the perpendicular surface it had left at its spring. Another use

of its silken line is made by a species of *Epeira*, which I have observed to drop down a considerable distance, and with great swiftness, upon its prey, from the snare to the ground; immediately again ascending with the prey in its falces, by means of the line emitted in its descent.

#### Commercial use of Spider's Silk.

It is not probable that any use (in a commercial sense) will ever be made of spider's silk; least of all is it probable in respect to British spiders.

The possibility, however, of winding, and weaving spider's silk into articles of commerce is undoubted. Gloves and stockings were made of it in France as long ago as a hundred and fifty years; and quite recently—1865-1869—the fact has been proved by Dr. Burt G. Wilder, of the Cornell University, Ithaca, U.S.A. The carnivorous propensities of spiders are the great hindrance to their being reared for the purpose of obtaining the silk.

#### Are Spiders Venomous?

Among other reasons why spiders are so much neglected by the common run of natural history observers, is the idea that their bite is poisonous. This is, I think, certainly not the case in respect to any known British spider. I have myself often tested the absence of venom in some of our strongest species; and Mr. Blackwall's far more extended experiments some years ago—Linn. Trans. xxi., p.p. 31-37—were attended with a similar result. There is, however, good reason to believe that in the South of Europe, as well as in the Tropics, and certainly in New Zealand, there are some venomous spiders, but these are not among the larger kinds, and the species are probably few.

In all cases of bites by spiders—as in the case of bites or stings by venomous insects, scorpions, and serpents, the effect of course, depends very materially on the immediate condition, both of the biter and the patient.

Although, however, not generally venomous in respect to mankind, the bite of a spider is undoubtedly poisonous when inflicted upon its prey. One effect of it is, probably in most cases, to



benumb or paralyze the insect, which, if not at once devoured, remains in a state of insensibility, and available as fresh food for some hours, and perhaps for several days.

#### Differences between Mature and Immature Spiders.

A remark should be made on a point upon which every collector and observer of spiders finds a difficulty almost as soon as he begins to study them; that is how it is to be known whether the myriads, often, of spiders met with are adult (*i.e.*, full-grown) or not. It will be borne in mind that a spider undergoes no metamorphosis at all; neither *complete*, as in the case of a butterfly or moth, which has arrived at maturity through the well-marked stages of caterpillar and chrysalis; nor *incomplete* as among the Hemiptera (or bug tribes), and the Orthoptera or grasshopper group. A spider is *a spider*, with but very little wanting of perfection in its general external appearance, from the time of its exclusion from the egg to its maturity. Maturity is arrived at simply after several successive moultings of the whole skin; the only outward structural change that takes place being at the final moult, when the male spider attains its complete armature of spines, bristles, and hairs, according to its kind, and the last (or digital) joints of the palpi, up to that time tumid and homogeneous, break up into the digital joint properly so called, and the curious, and more or less complex, congeries of lobes, bulbs, and spines—palpal organs—the use of which has been before noticed; the full dimensions of the legs are also sometimes not attained until the same period. The female spider, at her last moult, merely develops the genital aperture, with (in those species to which they are peculiar) its external processes, as well as its internal structure. Up to this time the aperture is invisible, though (like the palpal organs of the male), it has been gradually developing beneath the cuticle.

The *pattern* of a spider (that is the design formed by its colours and markings) differs, in general but very little in immaturity and maturity; excepting that it is usually more distinct in the young, and in female examples. Still in some species there is a very striking difference between the colours and mark-

ings of the very young spider, and those which it attains after one or two changes of skin; *Epeira diademata*, Clerk., and *Zilla x-notata*, Ibid., two of our commonest spiders, are conspicuous examples of this. Practice, and careful observation only, will enable the collector to pronounce, at a glance, upon the species of a large proportion of very young spiders; while in some groups the most experienced collector is unable to decide, with any certainty, on the species until maturity is attained.

#### Difference in Size and Colours between the Male and Female Spider.

Another difficulty in the collector's way is the great difference both in size, colours, and pattern between the sexes of many spiders. Excepting one spider—*Argyroneta aquatica*, Clerck.—all those found in Great Britain have the female either equal in size, or else larger than the male. The difference, however, between the sexes is not, in these northern regions carried to the extreme limits which are frequently reached in the tropics. The female of *Nephila chrysogaster*, Walck. (an almost universally distributed tropical Epeirid) measures two inches in the length of its body, while that of the male scarcely exceeds 1-10th of an inch; and is less than 1-1300th part of her weight. As an instance of great disparity in size between the sexes of some British spiders, *Misumenavatia*, Clerck., may be mentioned. The colours and markings of the sexes differ more frequently than the size; the spider just named being a striking instance of this also. Attention is called to these differences, wherever known, in the following descriptions; but in respect to new species, or to those spiders whose sexes are not yet both ascertained, experience alone will prove the specific identity of some, whose males and females may appear at first sight to belong to quite distinct species. It is difficult, not to say impossible, to account for very great differences in size between the sexes, on any other hypothesis than that of "natural selection." Many Epeirids exemplify this difference in size very strikingly, among them the spider noted above—*Nephila chrysogaster*—is an extreme instance. It has been proved with respect to one of our own commonest Epeirids—*Epeira diademata*, Clerk.—and

it is probably also an occasional habit with many others, that the female will attack and kill, and even devour the male; now it is obvious that in her attempts to catch him, the chance of escape will be in proportion to the smallness of his size and his activity; thus the larger the male (it being remembered, of course, that the male is always, excepting in rare instances, the smaller and weaker of the two) the greater his risk of being destroyed, instead of becoming the progenitor of a future race. The smaller males will therefore more commonly be the ones to perpetuate themselves; and so, by a kind of "natural selection" this sex will become gradually less and less in size, until that descending limit is reached beyond which the male would not be large enough to perform the offices for which it was created. That limit certainly seems to have been reached in the case of the tropical spider above alluded to. The disparity in size between the male and female of *Epeira diademata* is also very great.

It should be remarked that in measuring spiders the "length" is, unless otherwise stated, the length of the *cephalo-thorax and abdomen*, exclusive of the *falces*.

#### Protective resemblance of Spiders to Insects or other Objects.

Another very interesting part of the study of spiders (as indeed it is of all the *ARTICULATA*) is the way in which some species resemble others, belonging often to very widely separated groups of this branch of the Animal Kingdom. This resemblance has been called "mimicry;" an unfortunate term as it seems to me, because it appears to imply conscious imitation, in which, of course, no naturalist (so far as I am aware) believes for a moment. The resemblance is sometimes exceedingly close, and may be called mimetic; but the more abstract phrase, "protective resemblance," expresses all that is really understood by the fact, and does not seem to be liable to misconstruction. The *resemblance* is undoubted, and its *protective effect* has been proved in some cases, and may be assumed in almost all. The most striking instance of "resemblance" known to

me, among British spiders, is that of *Micaria scintillans*, Cambr. (p. 12), found in some abundance in the Isle of Portland. This spider so nearly resembles a large ant, which abounds in the same locality, that it requires the second look of even a practised eye to be sure whether it be really the spider or the ant. The advantage, or "protective effect," afforded to the one thus resembling another, is not always easy to be understood at once; it may often consist in the protection from certain dangers, to which the creature resembled is either not liable, or may be specially guarded against; thus the ants of Portland, being of a hard and horny nature may not be a favourite food for those enemies which would find an agreeable morsel in the softer and more succulent spider; the latter, therefore, would deceive, and so escape such enemies, from its resemblance to the distasteful ants. In other cases (and, possibly, also in the one just mentioned) the resemblance may give the ressembler a chance of obtaining its prey more easily. Thus, in the South of Africa there is (in Caffraria) a spider resembling an ant even more closely than the Portland species; the habit of this ant is to feed on the honeydew along with multitudes of insects of other orders; these latter have no dread nor suspicion of the ants, which, in fact, have a common object in view, and do the other insects no harm; but then, under cover of a close resemblance to the ants, come the spiders, who, unsuspected and unresisted, regale themselves at their leisure upon the defenceless insects.\*

Akin to this kind of resemblance, is that which many spiders bear to various other objects, such as the buds and blossoms of plants, bits of lichen, small stones, and even the droppings of birds; also to the colour of the surrounding surface, whether of the ground, or of the bark of trees, or of walls; or to the tints of the leaves of trees and plants, and the petals of flowers. *Misumena vatia* (before noticed) is an example of this kind of resemblance. I find this spider very commonly in the blooms

\* This interesting fact has been kindly communicated to me, together with specimens of the spider and ant in question, by an enthusiastic naturalist and colonist in South Africa, Mr. J. P. Mansel-Weale.

of the great mullein—*Verbascum thapsus*—to which the pale yellowish hues of the spider are well suited for its concealment in the yellow blossoms. An allied spider—*Thomisus onustus*, Walck.—found here, and in the neighbourhood of Wokingham, on the heather blooms, and upon some other pink flowers, is beautifully tinted with pink, chiefly in its younger and feebler stages. The Rev. C. W. Penny (of Wellington College, Wokingham) tells me that he has found examples of this spider on yellowish blossoms, and that these examples are generally of a yellowish hue, quite devoid of the pink colour of those found on pink blooms. I am inclined to think that this is not invariable, inasmuch as I have found here the more mature examples (which are generally devoid of pink colouring) also on the pink heather blooms. The protective resemblance of colour would not be so necessary, in the above instance, for the protection of the more mature as for that of the younger spiders, and therefore we might expect to find the former on flowers of any colour growing where the spiders are found; while I have certainly only met with the younger, pink-coloured spiders, on the pink heather blossoms. Another Thomisid—*Xysticus sabulosus*, Hahn.—so exactly resembles both in form and colour the little bits of grey, yellowish, black and red-brown mottled stone found on the bare patches where turf has been pared off on our heaths, that until the spider moves it is almost impossible to detect it. *Lycosa herbigrada*, Blackw., a grey spider marked with black and brown markings, is another instance of exact adaptation to the grey sandy heaths where it occurs; while *Philodromus fallax*, Sund., is equally well concealed by the perfect adaptation of its colouring to the dull yellowish sandy spots where alone it is met with. One of our common Epeirids—the beautiful *Epeira cucurbitina*, Clerck.—found on rose and other bushes, in gardens and woods, is of a clear, bright, green colour, with a brightish red spot at the hinder extremity of the abdomen; this spider, when (as it often does) it sits tucked up between the green shoot and the axil of the leaf, looks exactly like a young bud just ready to burst.

Another spider, abundant in many marshy places in the South of England—*Tibellus oblongus*, Walck.—has an elongated-oval body with longish legs, and is of a uniform dull yellowish hue; it is an exceedingly active spider, and when running in autumn among the dull yellowish, decaying, coarse grass and rushes, looks much larger than it really is; all of a sudden you lose sight of it, and unless you are aware of its habit you are puzzled as to what can become of it, and are going to give it up as lost; but there it is close to you, stretched out at full length along the exactly similarly coloured stem of grass or rush, with its first and second pairs of legs put forward in a straight line, and its third and fourth pairs stretched in the same way backwards, so as to be scarcely distinguishable from the stem itself. In spring and summer *Tetragnatha extensa*, Linn., a greenish spider, conceals itself in the same way along the green stems of grass and rushes. Many other instances might be given, but these are sufficient here to call attention to this most interesting part of the study of spiders.

#### Enemies of Spiders.

Spiders, formed for the destruction of others, have yet themselves many enemies. They prey upon each other, as well as upon all the insect tribes, and on other Arachnids. Numbers are also destroyed in the young state by the *Phalangides* or "Harvestmen." The large black and red ant of our woods—*Formica rufa*—also destroys them so completely, that in those localities thickly inhabited by the ant, I have generally found it almost useless to search for spiders. Wasps and hornets also devour them; as well as do birds, lizards, and other reptiles, and probably many of the smaller mammalia. Some others of the Hymenopterous insects prey, parasitically, upon spiders. For instance, *Pompilus sepicola*, F. Smith—a large, black and red, wasp-like insect—seizes some of our largest spiders—such as *Trochosa ruricola*, De Geer, and *T. terricola*, Thor.—paralyzes them with its sting, leaving them, however, still living, drags them by main force to its hole in the sand, and deposits its eggs in the spider's body; the

larva soon hatch, and the spider in its comatose state affords them constantly fresh food, and in sufficient abundance to bring them to a state of maturity. Other smaller parasitic Hymenoptera deposit their eggs in the egg-cocoons of spiders; the larvæ feeding upon the eggs of the latter. An apodous (probably hymenopterous) parasitic larva is often found adhering to the abdomen of several species of *Theridion* and *Linyphia*. I have found it of even a larger size than the spider itself, but still adhering to its abdomen. Every attempt to rear the perfect insect from the parasite has hitherto failed. The spider does not usually appear to be much the worse for its hanger-on, though, no doubt, it must eventually be destroyed by it.

Spiders frequently lose their limbs in battle, but these losses are made up for by the power of reproducing the lost member; they have also the power, when held by the leg, of throwing off a joint, or even the whole limb, by means of a violent muscular effort; and thus often effect their escape; judging, no doubt, that "it is better to lose some than all."

Drought, as well as excess of wet, but more especially the former, and unseasonable weather of all kinds, have a strong effect in reducing the numbers of many spiders. Some species, found in marshy places, are so susceptible of injury from lack of moisture, that they cannot be carried alive in a chip-box for more than an hour or two, unless a small portion of damp moss be placed with them in the box. Others, on the contrary, appear to thrive best on the most arid spots, and in the hottest sun. As a rule, however, spiders are "thirsty souls," constantly requiring water to drink. Doubtless they imbibe the dew drops when other sources of moisture fail.

#### Affection of Spiders for their Eggs and Young.

Great attachment is shown for their young by many spiders. Some species of *Clubiona*, perhaps all of them, tend upon their young, brooding over them as a hen does over her chickens,

until they are old enough to separate and find their own living. The young of *Atypus piceus* (p. 2) live with their mother in their tubular abode, for a considerable time after they are hatched; coming out at times for air and exercise, and fed by insects brought into the tube by their parent. At least, so I conclude, from having found the *débris* of beetles and earwigs in the tube along with the young brood of spiders. Many (probably all) of the *Lycosides* show great affection for their egg cocoons, which they bear about attached to the spinners; and, if deprived of them, search anxiously about, eagerly seizing the cocoon when found, and again and again doing so if it be repeatedly taken from them. These spiders also carry their young on their backs, until old enough to shift for themselves. A mishapen, fluffy-looking, little brownish lump may often be seen running about among the grass and herbage; but, on an attempt to take hold of it, suddenly the lump breaks up into scores of minute spiders, which hastily disperse in all directions; the now shrunken mother remaining quietly until the panic is over and her brood again gathered round her. A pretty little Theridion, *T. bimaculatum*, Linn. (p. 91), likewise carries its egg-cocoon about, suspended between the legs, and only relinquishes it when force is used, regaining it quickly, if possible. Although in many, perhaps most, instances the males and females live separate lives, yet in some cases they live amicably together—for instance, the two sexes of *Agelena labyrinthica* (p. 67, pl. i., fig. 1) may be found in great amity together in their tubular retreat. So also those of *Meta segmentata*, Clk., *Linyphia marginata*, Clk., and others, inhabit the same web when adult.

#### Duration of a Spider's Life.

The length of life among spiders is evidently very varied. It is probable that some species arrive at maturity in a few weeks after being hatched; others, particularly those which hybernate during the winter months, require a very much longer period—in some cases perhaps more than a year; and it is probable also



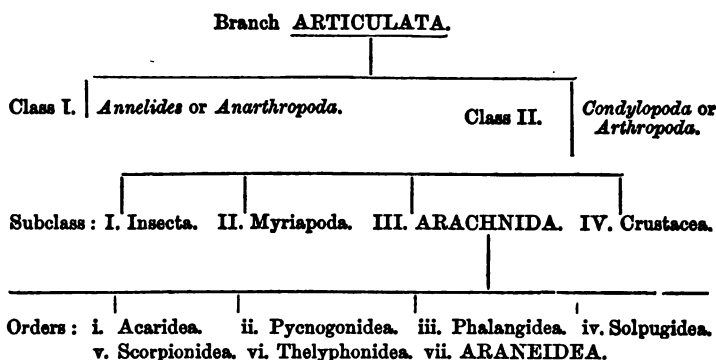
that, as a rule, the life of a spider soon closes when its eggs are laid, or its young hatched and able to shift for themselves. In most cases the males disappear very quickly after the impregnation of the females; but without a doubt some of our house-spiders—as *Tegenaria* and *Amaurobius*—will, under favourable circumstances, live for more than one season, perhaps for even several years. Mr. Blackwall states (Spid. Great Brit and Irel., p. 8) that *Tegenaria civilis*, and *Segestria senoculata* have been proved to live for four years. The subject, however, of the duration of life among spiders is involved in much obscurity, owing to the difficulty of making any trustworthy observations upon it.

### Classification of Spiders.

This portion of the subject must not be passed over, though it cannot be gone into at any great length.

One of the first things that a Natural History collector desires to know something about is, how to arrange scientifically the objects of his study. Now, in respect to spiders, there is, of course, the same basis of classification, as there is in regard to every other Natural group. *Form, structure, colours, and markings*, and, in a lesser degree, *size*, are the chief characters upon which all classification is based. The true spiders—*Araneidea*—form a remarkably homogeneous group of the Great Branch of the Animal Kingdom—*Articulata*; and constitute one out of the seven orders of the class *Arachnida*.

The basis of the classification of spiders has already been touched upon, in defining what a spider is, and in distinguishing it as well from insects, as from the members of the collateral orders—*Acaridea*, *Phalangidea*, and *Scorpionidea*. It will suffice, therefore, to diagnose shortly the Arachnida generally, and the order *Araneidea*, which we are at present treating upon. Perhaps the following diagram will be useful, as giving a general idea of the whole subject:—



ARACHNIDA.—Not subject to metamorphosis, but developed by successive moultings of the skin. Organs of locomotion, eight. Body, in general, divided into two principal parts, *Cephalo-thorax* and *Abdomen*; in some groups the abdomen is divided into more or less distinct segments, but in such cases no organs of locomotion are ever attached to them. Respiration (where distinct organs exist) is either tracheal, sac-tracheal, or the two co-existent.

Coming now at once to the order ARANEIDEA, we have the two parts of the body, *Cephalo-thorax* and *Abdomen*, always quite distinct from each other. The former, by its converging lateral indentations, shows unmistakeable traces of pristine segmentation; the latter, occasionally showing the same by transverse folds in the integument near the posterior extremity; excepting in these respects the cuticle of both is continuous. *Palpi*, in males, used in copulation; and especially developed, at their terminal joint, for that purpose; in females the palpi are simple, and generally terminate with a single claw. *Legs* always furnished with two, or three, terminal tarsal claws. *Respiration*, both tracheal and sac-tracheal.

By the above characters spiders are at once separated from all other Arachnids, as well as from Insects, Myriapods, and Crustaceans.

The first subdivision of the Araneidea, necessary to be noted here, is into *Families*. By some authors a previous subdivision is made into *Suborders*; but, whatever scientific truth there may be in *Suborders* generally, the whole group of *spiders* is too homogeneous, practically, to need it, or, perhaps, indeed to admit, scientifically speaking, of such a primary subdivision. Mr. Blackwall divided the Araneidea into three *Tribes*. One (*Octonoculina*) characterized by possessing *eight* eyes; another (*Senoculina*) having *six* eyes; the third (*Binoculina*) with *two* eyes. But, although this subdivision may seem to possess a certain amount of practical convenience, it sets at defiance almost all the other categories of generic characters; bringing together spiders widely different in every other respect excepting in the mere number of the eyes; and separating as widely other spiders of close and undoubted affinity to each other, differing only in that number. Equally untenable, as a basis of scientific classification, although of very great interest, are the different kinds of snares, upon which Latreille (followed since by others) based his subordinal groups, some of which, *Orbitelariæ* and *Retitelariæ*, have already been noticed.

Passing over, then, such primary groups as those above mentioned, *Families* are characterized according to various modifications of general form, as well as by some few common, but peculiar, structural details, occasionally supplemented by habits and modes of life. Next to *Families* come the *Genera*. These are groups, characterized by the ultimate details of the structure of various parts, including the form and relative dimensions of the Cephalo-thorax and Abdomen, Legs, Maxillæ, and Labium; sometimes also of the Falces; more rarely the armature of the legs; and, always, the number, relative size, and position of the eyes.

There is hardly any need to remark that, although it is usually implied (and most commonly it is the fact) that a *Family* is a group of *Genera*; just as a *Genus* is a group of *Species*; yet a *Family*, a *Genus*, and a *Species* may be (and have often been, among

exotic spiders) based upon a single individual; for, after all, the "*individual*," whether it be a spider or any other living creature, is the sole *reality* in nature; and necessarily possesses in itself all the characters upon which classification is based, be they *Family*, *Generic*, or *Specific*. The names, therefore, given to the various groups or divisions recognized in classification, are merely convenient abstractions denoting the different relations of individuals, or groups of individuals, to each other.

The *specific* characters, or those by which *Species* are characterized, now only remain to be noted. They are those of size and colour, and the pattern formed by its distribution; also slight differences in the relative sizes and position of the eyes; the height and form of the clypeus; as well as the relative length of the legs, and their special armature. In some groups of spiders the comparative length, breadth, and depth of the cephalo-thorax is a valuable specific character; so are also its normal indentations, as well as the striæ and punctures when present. In all adult *male* spiders the palpi (especially the projections or apophyses, when present, on the different joints) and the palpal organs, by their varying structure, afford the most trustworthy of all characters for distinguishing species, even when in other respects the differences may be exceedingly slight; and in almost all *female* spiders (when adult) the form and structure of the genital aperture give us some of the best characters for distinguishing the species, in that sex, of nearly allied spiders.

*Species*, then, are groups of individuals, in each of which the above characters called *specific* come together. Occasionally, however, individuals are found in which all the specific characters meet, excepting one or two of the least value, such as size and colour, and occasionally pattern. These constitute *varieties*.

The subject of classification, being practically exemplified in each of the ensuing descriptions of spiders, need not be further gone into here.

### Mode of Capture, and Preservation.

Our Introductory Chapter on Spiders would scarcely be complete without a few words on this subject.

The study of spiders is, peculiarly suited to persons of a sedentary habit, or to those who may love natural history pursuits, but do not desire to form a collection. In this respect the observing of spiders possesses an advantage over the observation of the insect tribes in general, inasmuch as spiders are more stationary, and when found out in their hole, corner, or web, do not escape observation by flight; but require only patience in the observer to unfold much of their history and economy. The Collector often debars himself from the discovery of many a fact in the habits and life of the object of his search, by anxiety to add to his collection, and fear lest the specimen should escape. Still there are many points that can only be ascertained by a close study and examination of the object itself; and, especially in regard to spiders, the scrutiny of those often minute, but important, structural and other characters upon which the determination of their species and systematic position depend is imperative, and hence it is absolutely necessary both to capture, and to preserve specimens.

Probably the difficulty of making pretty cabinet objects of spiders has, in some measure, hindered their being studied and collected as commonly as the insect orders. But, premising here that this difficulty can be, in a great degree, overcome, it will be well to say a word first about their *capture* (on the well-known principle of "First catch your hare.")

First then it ought to be an axiom with the spider-collector never to handle a spider with the fingers if it can possibly be avoided; because they can scarcely be handled without great danger of breaking off the legs, or destroying the hairs, bristles, and spines with which most of them are more or less furnished. To break off these is to deprive oneself of one of the best characters for the determination of the spider; not to mention

that the colours and markings often depend on the hairs, and hairy pubescence with which the cephalo-thorax and abdomen are frequently clothed, and which always show sad traces of destruction after contact with the fingers. The only spiders that may be caught without much danger of injury in this way are the very minute ones (especially of the genera *Neriëne* and *Walckenaëra*) upon which the wetted forefinger may be lightly placed; the moisture causes them to adhere to the finger long enough for immersion in the small phial of spirit of wine carried in the waistcoat pocket. Spiders may be boxed (separately of course) in small pill boxes; a drop of chloroform stupifies them, and they can then be examined, and rejected if not wanted, or at once placed in the spirit phial, if required for the collection; but the most convenient method of capturing a spider is to place over it an empty test tube (one of  $\frac{1}{4}$  to  $\frac{1}{2}$  of an inch in diameter and 3 inches long is a good general size for most British spiders); the spider instantly runs up the tube (or may be made to do so), the fore-finger than closes the mouth temporarily, and on inversion of the tube over the open mouth of the spirit phial, the spider drops down at once, and the matter is concluded. Ordinary methylated spirit is the best fluid for both killing and preserving spiders; but for the latter purpose (as the spirit is usually about 50 or 60 degrees above proof) it should be diluted with about one-fifth or one-sixth part of distilled water, otherwise it is apt, after a time, to corrugate the integument of small and delicate spiders.

Those spiders which are found running or jumping about on the ground, or on walls or trunks of trees can be easily caught thus, by means of a test tube, with a very little practice; for others, which frequent low herbage, a sweeping net (such as those used by Entomologists) must be employed; and for those which live on bushes or boughs of trees, there is nothing better than a very large umbrella into which the boughs may be beaten; and, whether in the net or umbrella, the pill-box or tube will have to be employed for the transfer of the spiders to the spirit bottle. When the day's collecting is done the contents of this bottle must be separated into tubes of different sizes, according to

their genera and species. This can most conveniently be done by turning out the whole contents of the bottle into the cover of a potted-meat pot, or into a saucer. The spiders should then be separated and placed in the tubes by means of a pair of very fine-pointed and elastic forceps, each spider being taken up by a single leg; the tube is then filled up with clean spirit, a pledget of cotton wool is placed firmly in its mouth with the forceps, together with a small parchment label on which (if the label be large enough) the name of the spider is written; or else a number is inserted in figures, referring to a note book wherein notes of locality or habits, &c., are written. The tube thus filled and stopped is then placed, in an inverted position, in a larger, wide-mouthed bottle, capable of holding several species, or perhaps a whole genus; this wide-mouthed bottle is partly filled with spirit, corked, or stopped with a glass stopper, and has a large label outside on which the name of the genus, and species, or perhaps merely the number of the tube may be placed, so as to show its contents and facilitate reference. A larger pair of forceps, with broad flattened points, is necessary for placing the tubes in the bottle, and for taking them out when the spiders are required for examination.

Spiders preserved after the above method are certainly not objects of beauty, like a collection of moths or butterflies; for though the colours and markings are usually well enough preserved the legs are often crumpled up a good deal. To the "Goodness gracious" sort of naturalists they are by no means acceptable. The only remark my collection elicited from one of this kind was, "What a lot of bottles!" A little extra trouble, however, in the preparation of a spider will render it worth noticing even by indifferent persons. When stupefied with chloroform or killed by a short immersion in spirit, the spider should be placed on a piece of cork fixed to a thin layer of lead; a few pins at various points (not through the spider, but between the legs and outside the body) will keep it in a natural position; the whole is then placed in a clean, empty jar or basin (a preserved-meat pot is one of the best receptacles I know of),

sufficient spirit is poured in to immerse the spider, and the cover is put on. In a fortnight or so the action of the spirit will, if it be pretty strong, have stiffened the specimen, which must then be placed carefully in a tube sufficiently large to receive it without too much compression of the legs; a small strip of white card should be slipped in behind it, the tube be filled with spirit and corked (or, better still, stopped with a pledget of cotton wool) and inverted in a larger bottle, as recommended above. The spider's name may also be written on paper or parchment, and inserted in the tube. Prepared this way, and ranged on narrow shelves, the spiders may be seen without removing the tubes from the bottles, and present a very neat and slightly appearance even to the most indifferent observer.

#### Where to Look for Spiders.

The places in which spiders are to be found may be gathered from the numerous references to localities and habitat in the following pages. It need only, therefore, be remarked here that no situation, wet or dry, high or low, should be left unsearched. In the winter and spring months moss and débris of all kinds, such as heaps of grass, cut rushes, fern, dead leaves, brush-wood, and decaying faggots, should be carefully searched, shaking out these various materials upon a newspaper, when many a rare species of *Neriène* or *Walckenaëra*, as well as some kinds of *Drassides* and others, seldom met with elsewhere, will be found. As spring advances and summer comes on, spiders, as a rule, leave their winter haunts and get up upon the bushes and trees, and among rushes, grass, and other herbage of all kinds, when the sweeping net and umbrella, as above recommended, will come into requisition. At all times of the year spiders conceal themselves under stones, logs of wood, old bark, ivy stems, and other such shelter; while many species, especially the adult males, may be found running upon the surface of the ground, disporting themselves on walls, tree trunks, posts, and rails, or running on the uppermost bar of iron fencing. Old buildings, cellars, and



unused rooms are also the habitat of some peculiar species. In fact, wherever insect-life can penetrate, spiders of one kind or another are sure to be found; and, as in all other Natural History pursuits, the keenest eye, the most dexterous fingers, and the most unwearied toil and patience, will bring the greatest number of rarities to the Araneologist.





## CLASS—ARACHNIDA.

### ORDER—ARANEIDEA (or True Spiders).

#### FAMILY—THERAPHOSIDES

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**T**HE only British representatives of this family are rather aberrant from the general type; still it will not be out of place to give some few details of it including, as it does, the Giants of the Spider Tribes, as well as some others (notably the Trap-door Spider) of very great interest. Almost all are either "tropical" or "subtropical." They are generally of robust build, more or less covered with coarse hairs and pubescence, and of an uniform dull hue. With one exception, they have eight eyes; these are grouped, in general, on a somewhat raised tuberculiform plateau on the fore part of the caput. The falces are articulated horizontally, and have a vertical, or up-and-down movement. The cephalo-thorax is broad, but usually flattened above, with very strongly marked converging indentations, especially that at the thoracic junction. The abdomen has, on its under side, a quadrangle of more or less bare, roundish, patches, two on either side towards the fore extremity; each of these patches has a transverse slit or opening behind it, forming the entrance to the spiracular, or breathing organs. The spinners are four or six in number, and frequently two of them are of extra length, turning upwards and backwards over the hinder parts of the abdomen. Examples of this family occur in South America, reaching the great expanse of ten inches from tip to tip of the outstretched legs; the body itself (that is, the cephalo-thorax and abdomen) measuring three inches in length.

GENUS ATYPUS, *Latreille*.

The genus *Atypus* may be known at once by the enormous development of the falces. The caput is greatly elevated, while the thoracic portion is depressed. The eyes are seated transversely in three groups on a small prominence at the summit of the caput; the central group consists of two eyes in a transverse line, and has another on each side of it, consisting of three, in the form of a small triangle. The maxillæ are considerably elongated and divergent, the labium small and subconical. The abdomen is small, almost semi-globular, and the spinners are six in number; the superior pair of these are much the longest, very strong, three-jointed, and upturned. Digital joint of male palpus narrow, and scarcely concave; papal organs simple.

Three species only are as yet known in Great Britain. All these have been found in Dorsetshire, and may be included among our larger spiders. Legs, 4.1.2.3.

## ATYPUS PICEUS.

ARANEA PICEA, *Sulzer*., *Gesch.*, d., *Ins.*, p. 254, tab. xxx.,  
fig. 2.

ATYPUS SULZERI, *Latr.*, *Blackw.*, *Spiders of Great Britain and  
Ireland*, p. 14, pl. 1, fig. 1.

„ AFFINIS, *Eichw.*, *Cambr.*, *Trans.*, *Linn. Soc.* xxx., p. 320.

„ PICEUS, *Sulz.*, *Cambr.*, *Ann. and Mag. N. H.*, s. 4, xvi., p.  
238, pl. viii., fig. 2, and s. 5 i, p. 106.

Two adult males of this spider were found at Bloxworth about twenty years ago, and remained, until very lately, the sole representatives of that sex found in Great Britain. The deep black and brown colour of the male, and the formidable and powerful falces of both sexes, make it a very striking spider. *Atypus* is the only genus of the family found

in these northern parts of Europe ; the curious trap-door nests, so popular in all works upon insect-architecture, belong to two other genera—*Nemesia* and *Cteniza*—possessing numerous representatives in the South of Europe.

The present spider forms a silken tube in a deep cylindrical hole in the earth, of its own excavation, and generally near the projecting ledge of a grass-grown or heathy bank. The upper end of the tube, to the length of two inches, often hangs over loosely on the surface, but sometimes it is erect among the herbage, and has an inflated appearance ; this last is generally a sure sign that the owner is at home. No aperture is discernible ; this may be either from the extremity possessing a kind of elasticity by which the mouth of the tube closes of its own accord, after the entrance or exit of the inhabitant ; or perhaps the mouth is secured by the spider after entering the tube, and spinning itself up in the same way that the tube is formed ; this closing operation would take but a few minutes, judging at least from the effects I have observed of a very few moments' use of their spinners in confinement.

Monsieur Eugène Simon (of Paris) considers that the food of this spider (which is abundant in France) consists mainly, if not wholly, of earthworms ; nests, however, of the female, found in tolerable plenty near Ventnor, in the Isle of Wight, contained a considerable quantity of the shells, and other remains, of beetles and earwigs. Although found in other, and widely distant, parts of England, *Atypus piceus* must be considered a rare and local spider. Since writing the above I have discovered a strong colony of this spider under a heathy ledge on Bloxworth Heath.

The male measures about one-third of an inch in length ; its falcies and cephalo-thorax are deep black-brown ; the legs and palpi dark brown, the former paler at their extremities ; the abdomen is dark brown, with a large, nearly black, oblong-oval coriaceous patch at the fore-part of the upper side. The female measures half an inch or more in length, and has the cephalo-thorax and falcies of a brownish olive, and the abdomen of a somewhat purplish brown colour.

### ATYPUS BLACKWALLII,

ATYPUS BLACKWALLII, *Sim.*, *Cambr.*, *Ann.*, and *Mag.* N. H.,  
Octr., 1875, s. 4, vol. xvi., p. 241.

This species is nearly allied to the foregoing, and closely resembles it in general form, size, and colours. It may be distinguished, among other characters, by the crushed-in appearance of the falces at their base on the inner sides. Two British examples only have been recorded, and one of these was found by myself at Portland, near Pennsylvania Castle, some years ago. The above examples have been examined and determined by M. Simon; I must, however, confess to some doubt in regard to the goodness of the species, or at any rate in respect to the identity of these examples with the French types.

### ATYPUS BECKII,

ATYPUS BECKII, *Cambr.*, *Ann.*, and *Mag.*, N. H., s. 4, vol. xvi.,  
p. 242, pl. viii., fig. 1.

A female of this spider, which is very like *A. piceus*, Sulz., in its general appearance and colours, was found some years ago at Portland, near Pennsylvania Castle. It may be distinguished by its rather larger size, as well as by the more abrupt slope of the hinder part of the caput, and by the eyes forming a longer and rather narrower transverse area, on a rather more projecting and more pointed prominence. An adult male, presenting much more strongly-marked differential characters than the female, was given to me by the late Mr. Richard Beck (of 31, Cornhill, London), by whom it was found near Hastings.

It is not improbable that this spider will be found eventually to be identical with *A. piceus* Ausserer, a spider which I have not yet had an opportunity of examining.





## FAMILY—DYSDERIDES.

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THIS family, comprising five genera, may be easily distinguished among our known indigenous British spiders, as (excepting one other spider, *Scytodes thoracica* Latr., of great rarity the sole possessors of six eyes; and also by the possession of four spiracular openings; the position of these openings is, however, rather different from that of the last family, in which the two on each side are widely separated from each other, while here they are close together near the fore extremity of the under side of the abdomen. The falces are articulated either on an inclined plane, or vertically, and have a more or less lateral (or from side to side) movement. This lateral movement is indeed, so far as is known, the mode of articulation of the falces all the Araneidea, excepting some of the present family, and the Theraphosides. The digital joint of the male palpus, and the palpal organs, strongly resemble, in their general character, those of the Theraphosides.

GENUS DYSDERA, *Latr.* DYSDERA, *Blackw.* (in part).

This genus comprises but two species as yet known to be British, both of them occurring in this county. They are among our largest spiders, and may be known at once by their dark reddish liver-coloured cephalo-thorax, prominent falces, dull reddish orange-yellow legs, and uniformly dull clay-yellow, somewhat cylindrical, abdomen, almost destitute of hairs. The eyes are six in number, disposed, close to the fore extremity of the caput, in the form of a horse-shoe, whose open side is in front. Each tarsus ends with two curved claws.

## DYSDERA CAMBRIDGII,

DYSDERA CAMBRIDGII, *Thorell*, Syn. Eur. Spid., p. 455.

DYSDERA ERYTHRINA, *Blackw.*, Spid. Great Brit. and Irel., p. 370, pl. xviii, fig. 266.

This spider is found, but rarely, in old buildings, among damp moss, and at the roots of heather at Bloxworth, but is very abundant near Pennsylvania Castle, Portland, under stones and detached pieces of rock; in such situations, as well as in cracks and crevices of the earth, it dwells, and spins a thin silken tube. The length of the female is very nearly or quite half an inch, while the male is rather smaller. Legs, 1.4.2.3.

## DYSDERA CROCOTA.

DYSDERA CROCOTA, *C. Koch*, Die Arachn. V., p. 81, pl. 166, fig. 392-394.

„ RUBICUNDA, *Blackw.*, Spid. Great Brit. and Irel., p. 371, pl. xviii., fig. 268.

Very nearly allied to *D. Cambridgii*, which it resembles closely in colours, but is usually rather larger; the falcies of the male are stronger, and the form of the palpal organs is different; in the present species they terminate with a prominence on either side, forming an obliquely-transverse portion, which is entirely wanting in *D. Cambridgii*; the basal portion is also of a much more globular form.

Found occasionally in the Island of Portland under stones; and once in an old building at Bloxworth.

GENUS HARPACTES, *Templeton*. DYSDERA, *Bl.* (in part).

*Harpactes* is very nearly allied to *Dysdera*, but may be distinguished by a more pointed caput, and three, instead of two, terminal tarsal claws; the eyes also form nearly an unbroken circle, owing to the near proximity to each other, of the two foremost ones. One species only is known in Britain, and that one is frequent in Dorsetshire. Legs, 1.4.2.3.

## HARPACTES HOMBERGII.

DYSDERA HOMBERGII, *Scop.*, Blackw., Spid., Great Brit. and Irel., p. 371, pl. xxviii, fig. 268.

A common spider, in most localities, underneath the loose and decaying bark of trees, under stones, and among old faggots and firewood. I have also found it not unfrequently among moss and grass, and at the roots of heather at Bloxworth. It is of a slender and attenuated form; its legs are yellowish brown, annulated with red brown; the cephalo-thorax dark blackish red-brown, and the abdomen of a dull brownish clay-colour, paler just above the spinners. The length of the female is about one-fourth of an inch, and the male is rather smaller and slenderer.

GENUS SEGESTRIA, *Latr.*

The Genus *Segestria* may be distinguished from both *Dysdera* and *Harpactes* by a totally different position of its six eyes; these are here placed in three groups: one pair (in a transverse line) in the centre, and another pair (in a longitudinal line) on each side, at a little distance from the central group. The terminal tarsal claws are three in number. Legs, 1.2.4.3. Three species are known as British, two only being found in Dorsetshire.

## SEGESTRIA SENOCULATA,

SEGESTRIA SENOCULATA, *Linn.*; Blackw., Spid. Great Brit. and Irel., p. 374, pl. xxviii., fig. 270.

This fine spider is found under stones at Portland, and also at Bloxworth, and in many other localities, under loose bark, enclosed in a thin tubular web. I have also found it snugly domiciled between the hinder part of a gate and the post, when the gate had not been opened for some little time. It may easily be known by the back of the abdomen bearing a resemblance in its markings to the back of an adder, being



ornamented with a longitudinal series of connected, irregularly-diamond-shaped, blackish patches on a greyish buff ground. The remainder of the upper surface, together with the sides and undersides, are also generally marked and spotted with dark blackish brown. The palpal organs of the male are of a simple pyriform shape, attached to the digital joint by the larger or bulbous end, and drawn out gradually into a very fine, sharp, simple point at the other end. The length of the female often reaches nearly half an inch, but the male is much smaller and the relative length of its legs differs from that of the female, being 1.2.3.4., those of the third pair are very slightly longer than the fourth, and the metatarsi and tarsi of the two first pairs are curved throughout with spines.

#### SEGESTRIA BAVARICA.

SEGESTRIA BAVARICA, *C. Koch*, Die Arachn, vol. x, p. 93, pl. 351, fig. 818, and *Westr. Aranese Suec.*, p. 298.

This spider is exceedingly like *S. senoculata*; it is, however, larger—the male measuring  $3\frac{1}{2}$  lines in length, and the female  $5\frac{1}{2}$  lines. Among the distinguishing characters the following will serve to separate it without difficulty.

The cephalo-thorax is much more densely clothed with short grey hairy pubescence, and the abdomen also is more thickly clothed with grey hairs, considerably obscuring their colours and markings.

The spines on the metatarsi of the first three pairs of legs are much fewer; a single spine only, beneath the posterior extremity of those of the first and second pairs.

The radial joint of the male palpus is less stout, though perhaps a trifle longer in proportion to the length of the cubital.

The palpal bulb is of the same general pear-shape, but whereas in *S. senoculata* the bulb goes off very gradually into a long slender stem, whose extremity is curved and almost hair-like, in *S. Bavarica* it goes off rather abruptly into the stem

which is also shorter, less attenuated, its extremity stouter, and less curved, and also, close to its termination, there is a small prominent sharp point, giving it a bifid appearance.

This fine addition to our list of British Spiders was kindly sent to me from Glanvilles Wootton by Mr. C. W. Dale, in October, 1877 ; this is, therefore, its first record as a British spider. Probably its similarity to *S. senoculata* may have caused it to be mistaken for that species, and thus to have been hitherto overlooked.

#### GENUS OONOPS, *Templeton*.

The Genus *Oonops* (as its name suggests) may be known by its large egg-shaped eyes. These are closely grouped in three pairs, as in *Segestria*, but the pairs are all contiguous to each other, instead of being (as in that Genus) pretty widely separated. The legs are moderately long and slender—4.1.2.3. The spiracular openings in the typical species are very difficult to be seen. M. Simon has indeed questioned whether it possesses more than two. I believe that I can discern four, but if it should prove to be the case that there are only two, the Genus *Oonops* will perhaps have to be removed from the Family Dysderides. Only one species is as yet known in Britain, and that one is found, not unfrequently, in Dorsetshire.

#### OONOPS PULCHER.

OONOPS PULCHER, *Templ.*, Blackw. Spid. Great Brit. and Irel., p. 377, pl. xxix., fig. 271.

A very small, bright brickish-red-coloured, and very active spider. The female measures no more (indeed generally rather less) than one line in length, and the male is smaller. It is of a rather elongate form, and the fore part of the caput is somewhat pointed. The palpal organs are very similar in form to those of *Segestria senoculata*. The tibiae and metatarsi of the legs are armed on the underside with two parallel rows of long, strong, and generally sessile, spines, but the spider has the

power of raising and depressing them ; those on the first and second pairs are the most noticeable.

Found, though rarely, among lichens on trees, and occasionally inside dwellinghouses at Bloxworth. It occurs more abundantly (in the immature state) in autumn under stones near Pennsylvania Castle, Portland. It is not adult until the spring. The six large oval pearly eyes are a very striking object through even an ordinary magnifying glass.





## FAMILY—DRASSIDES.

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**T**HE Drassides include most of the numerous sombre-coloured, somewhat elongate spiders, with a usually rather depressed cephalo-thorax, which one often sees hastily escaping on the lifting up of a large stone, block of wood, or piece of loose bark. Some, however, are found on shrubs and plants, and one I have never met with excepting indoors—*Drassus Blackwallii* Thor. Few of them, excepting those of the Genus *Micaria*, possess any bright colouring, or very distinct pattern. They are mostly hairy, but not, in general, long-haired; the legs are of moderate length, usually pretty robust, and armed with spines; the tarsi have two terminal claws. The eyes are eight in number, and disposed in four pairs, or two transverse curved lines, at the fore extremity of the caput.

GENUS MICARIA, *C. L. Koch.*, DRASSUS *Blackw.* in part.

The Genus *Micaria* is a curious instance of a small well-marked group of most brilliantly adorned spiders among numerous others, nearly all, of the most sombre hues. The spiders of this Genus are small, and have the abdomen, and often other parts also, more or less thickly-covered with scale-like hairs reflecting bright metallic tints of green, purple, and gold. They resemble ants very closely in their slender attenuate forms, and are exceedingly active, running abroad in the brightest sunshine. The eyes are small, and placed in two nearly parallel curved rows, not differing much in length, and the convexity of the curve directed backwards. Two species only are known as yet in Britain; both of them are found in Dorsetshire, and, indeed, one of them is up to the present time peculiar to the county, and has not yet been found on the continent.

## MICARIA PULICARIA.

CLUBIONA PULICARIA, *Sund.*, Sv. Spindl., Beskr. in Vet-Akad, Handl., 1231, p. 140.

DRASSUS NITENS, *Blackw.*, Spid: Great Brit. and Irel., p. 119, pl. vi, fig. 73.

The female of this brilliant little spider measures rather less than two lines in length, the male being smaller and of a more slender form. It is by no means rare under stones and among the dead sticks, decayed leaves, stems, and mosses of old hedge-rows at Bloxworth. Besides being adorned with numerous iridescent scaly hairs reflecting golden, red, green, and purple hues from a black ground colour, the cephalo-thorax has some lines on the sides, formed by white hairs, and converging to the thoracic indentation, while the abdomen has also various similar white lines and spots upon it. These lines on the abdomen are sometimes obsolete, excepting one spot just above the spinners; this variety forms the *Drassus micans*, Bl. (l.c. p. 118, pl. vi., fig. 72), of which the type specimen was found under a stone in Portland. On the whole this is perhaps the most beautiful of all our native spiders; it is adult, usually in the spring and early summer-time, when the males may often be seen rapidly crossing the dry roads and footpaths in bright sunshine. The relative length of the legs is 4.1.2.3.

## MICARIA SCINTILLANS.

DRASSUS SCINTILLANS, *Cambr.*, Trans. Linn. Soc., vol. xxvii, p. 412. pl. 54, v. 12A.

This is a larger spider than the last, and far less brilliant in its hues. The male measures a little over two lines in length, and the female often exceeds three lines. The abdomen is narrow, often strongly constricted across the middle; and the general appearance of the spider is that of a large, washed-out specimen of the last species, to which indeed it is nearly allied. The only known locality for it is in Portland, where I discovered it on the Verne Slopes in 1860. Subse-

quently—in June, 1875—I met with it abundantly on the grassy slopes, between Pennsylvania Castle and the seashore, running about among the rocks and quarries, but only when the sun shone; the absence of sunshine, if only for a minute, would cause every one of them to disappear among the grass, until the sun shone out again.

It is an exceedingly active spider, and not easily caught without damage. The best way to catch it (and, indeed, most other spiders) is to place an inverted empty glass tube quickly over it, when it will almost immediately rush up to the top, and the tube may be easily corked; the spider, if required for the cabinet, is then transferred to the large-mouthed bottle of spirit of wine, which should be always carried in the collector's pocket; but, if not destined to the spirit bottle, it may be examined through the tube with a magnifying glass and then set at liberty.

The grassy slopes where this spider occurs are also numerous frequented by a large blackish ant, to which the spider bears so very close a resemblance, that even after much practice it requires a close examination to distinguish (before capture) between the ant and the spider; both have also a similar, peculiar habit of running hurriedly, now and then, up a grass stem, as if to get a larger range of view—or it may be that both are in search of one and the same prey; both again, on the first inkling of danger, betake themselves to the shelter of the tangled grass, and to the stems and roots of other low herbage. Hitherto I am not aware that this spider has been found on the Continent.

Legs, 4.1.2.3.

GENUS GNAPHOSA, Latr. DRASSUS, Blackw. (in part).

The Genus *Gnaphosa* is distinguished from *Drassus* (*vide postea*) by the maxillæ being broader and more deeply, and obliquely, impressed across the middle, and more curved and inclined towards the labium. The convexity also of the curve of the hinder row of eyes is directed forwards, whereas in *Drassus* it is directed backwards. In their general appearance, mode of life, and the situations in which they are found, they closely resemble *Drassus*.

The head-quarters of this group, which is an extensive and well-marked one, is in Eastern Europe, Egypt, Palestine, and Asia Minor. One species alone has yet been found in England (where it is widely dispersed, but rare and local), being also found in Dorsetshire.

#### GNAPHOSA ANGLICA.

DRASSUS LUCIFUGUS, *Blackw.*, Spid., Great Brit. and Irel., p. 105, pl. vi., fig. 62 (in part).

„ ANGLICUS, *Cambr.*, Trans., Linn, Soc. xxvii, p. 419, pl. 54, No. 10.

GNAPHOSA ANGLICA, *Cambr.*, Ann. and Mag. N. H. s. 5, vol. 1, p. 110.

The male of this spider is  $2\frac{1}{2}$  to 3 lines in length, the female often considerably larger.

The cephalo-thorax is deep brown, with a V-shaped black-brown marking near the middle—the point of the V directed backwarks. The legs and palpi are of the same colour, and the abdomen is of a rather glossy, sooty-black hue, hairy, and with some erect, deeper black, stronger hairs scattered over its surface.

I have found it, though rarely, under stones, dry cow dung, and at heather roots, on Bloxworth Heath; and more frequently (during the month of June, 1877) in company with other spiders under the dry crust, formed by the desiccation of small muddy pools on the damper parts of the heath.

I have recently received it from Berwickshire, but it has not yet, so far as I am aware, been found on the continent.

GENUS PROSTHESIMA, *L. Koch.* DRASSUS, *Bl.* (in part).

This Genus is very closely allied to *Drassus*. It may be most readily distinguished by the point at which the palpi are articulated to the maxillæ, being *nearer to the extremity* than to the *base* of the latter. In general form, appearance, and structure, as well as in their mode of life, and the situation in which they are

found, *Prosthesima* and *Drassus* are scarcely distinguishable; the former is, if anything, of a rather flatter form, and more pointed at the fore extremity of the caput. Nearly all the species are either jet black or of a uniform deep brown colour. One only of those found in Britain has a reddish cephalo-thorax, all the rest are black.

Four species are recorded as British, three of them being met with in Dorsetshire.

#### PROSTHESIMA PEDESTRIS.

MELANOPHORA PEDESTRIS, *C. L. Koch*, Die Arachn. Bd. vi., p. 82, pl. 200, fig. 489.

DRASSUS PEDESTRIS, *C. L. Koch*, Cambr. Zoologist, 1861, p. 7558.

This spider is almost wholly jet black. The abdomen has a somewhat shiny and smooth appearance, and is clothed with very short hairs; the legs have the tarsi, metatarsi, tibiæ, and genua of a reddish yellow-brown, the femora being black.

The length of the male is rather more than  $3\frac{1}{2}$  lines, and the female is somewhat larger.

Found underneath stones at Portland in July, 1860; more recently I have received it from the neighbourhood of Exeter; and it has also been found in Guernsey.

#### PROSTHESIMA PETIVERII.

ARANEA PETIVERII, *Scopoli*, Ent. Carn., p. 398.

DRASSUS ATER, *Blackw.*, Spid., Great Brit. and Irel., p. 106, pl. vi., fig. 63.

Very nearly allied to the foregoing, and also of an almost uniform black colour, but easily distinguished by its duller hue, and a much more hirsute appearance, being clothed with longer and coarser hairs. The legs and palpi of the male are also stronger, and the digital joint and palpal organs much larger. It is found in similar situations, being abundant in Portland under stones and



detached pieces of rock, and generally distributed elsewhere beneath stones, rubbish, and among débris in hedgerows.

The length of the male is about 3 lines, and the female is a little larger.

#### PROSTHESIMA NIGRITA.

ARANEA NIGRITA, *Fabr.*, Syst., Ent., p. 432.

DRASSUS PUSILLUS, *Blackw.*, Spid., Great Brit. and Irel., p. 107, pl. vi., fig. 64.

Closely allied to both the foregoing spiders, but smaller, the male measuring only two lines in length. It may be distinguished from *P. Potiverii* without difficulty, by the pale (in general dull whitish) hue of the tarsal and metatarsal joints of the legs, and it is much more hirsute than *P. pedestris*. It is found in the same localities, and in similar situations, though much less frequently.

#### GENUS DRASSUS, *Walck.* DRASSUS, *Blackw.* (in part).

The Genus *Drassus* comprises a number of dull-coloured spiders—chiefly brown of various shades—some of them of considerable size. They are found sometimes in tubular silken webs under stones, or behind old boards or wainscoting, as well as among moss and grass, or in fact under anything suitable for giving shelter and retaining a considerable amount of dampness in hot and dry weather. Unless disturbed the *Drassi* come abroad only at night. Their form is elongate and flattish, the legs of moderate length, tolerably strong, and generally armed more or less with spines. The caput is broader in front than in *Prosthesima*, and the spiders are very active. The eyes form two curved transverse rows, the foremost row usually the least curved and the convexity of its curve directed forwards, while that of the hinder row is directed backwards, thus enclosing a somewhat oblong, or oval, transverse space. The maxillæ are strong, a little curved towards the labium, and slightly impressed near the

middle. The labium is of a somewhat oblong-oval form. Eleven species are recorded as British, and of these, seven are found in Dorsetshire.

#### DRASSUS BLACKWALLII.

DRASSUS BLACKWALLII, *Thorell.*, Syn. Europ. Spid., p. 179.

„ SERICEUS, *Blackw.*, Spid., Great Brit. and Irel., p. 111,  
pl. vi., fig. 67.

The length of the male of this dark, sombre-coloured spider is four lines, the female being rather larger; it may be recognised easily by the abdomen being thickly covered with mouse-black, silky hairs, which give it a somewhat shining and greasy appearance; a few coarser, erect hairs are also mixed with the others. It is, so far as I am aware, exclusively a house spider, and is not rare at the Rectory, Bloxworth, where it is found roaming about at night on the walls of the entrance-hall, staircase, and passages, as well as in the outbuildings. I have met with it in several other localities in Dorsetshire, and have received it from various parts of England.

*Drassus sericeus* Walck, with which Mr. Blackwall supposed it to be identical, is quite another species.

#### DRASSUS TROGLODYTES.

DRASSUS TROGLODYTES, *C. L. Koch*, Die Arachn., vi., p. 35, pl. 189, fig. 455, 456.

„ CLAVATOR, *Cambr.*, Ann. and Mag. N. H., Ser. 3, v.,  
p. 171.

This spider is of a dark yellowish-brown colour, and the abdomen has often a shining, coppery hue imparted to it by its hairy clothing. The hinder part of the abdomen has a longitudinal series of indistinct, pale, angular bars on the upper side, and in front of these bars, on the fore part, are six short linear spots, forming two longitudinal, curved, parallel rows, of three spots each; the convexities of the curves are directed inwards towards each other. The eyes of the hind-central pair are placed obliquely, and very near to each other, nearer than in almost any other of our

native *Drassi*. The palpi are of moderate length, with very large digital joints; at the outer extremity of the radial joint is a strong apophysis, whose termination is somewhat dilated; and the palpal organs have a strong, prominent, and rather twisted, corneous process towards their inner side.

The length of the male is from three to four lines, and the female, which in colours and general structure resembles the male, is somewhat larger.

I found this rare and local spider in some abundance under stones near Pennsylvania Castle, Portland, in October, 1859, but all were immature. In the following year, when it should have been in a state of maturity, I could not find one. It has also occurred, though rarely, on the heath, and in woods at Bloxworth; and it has been sent to me from Scotland.

#### DRASSUS BULBIFER

*DRASSUS BULBIFER*, *Cambr. Proc. Zool. Soc.*, June, 1874, p. 386, pl. 51, fig. 13; and *Ann. and Mag. N. H.* Ser. 5, vol. 1, p. 111.

This is one of the most distinct and striking of our British species. Length 2 to 2½ lines.

Cephalo-thorax bright, deep reddish yellow-brown, marked with converging blackish lines. The legs are yellow, with the femora of the first and second pairs black. The abdomen is also black and hairy, with a large oblong-oval, deep reddish-brown, coriaceous, bare patch on the fore half of the upper side. This patch lies exactly within four white spots, which form a quadrangular figure; two other rather linear white spots in a transverse line occupy the hinder half. The spiracular plates are large, and of a clear pale yellow colour. The radial joint of the palpus has its projection, or apophysis, of a somewhat tapering form, but rather dilated at its extremity, somewhat like that of *Drassus troglodytes*. The digital joint is large and the palpal organs also large, prominent, simple, and almost globular in form, with one or two small corneous processes near their fore extremity.

An adult male, kindly sent to me by Mr. C. W. Dale, by whom it was found under a stone, at Durdledoor near Lulworth, in July 1877, is the first well-authenticated example met with in Britain. One other example only has been recorded, and is supposed to have been met with near Hastings.

#### DRASSUS LAPIDICOLENS.

CLUBIONA LAPIDICOLENS, *Walck.*, Ins. Apt. i., p. 598.

DRASSUS LAPIDICOLENS, *Blackw.*, Spid., Great Brit. and Irel., p. 116, pl. vi., fig. 70.

This is the most abundant, and widely dispersed, as well as the largest species of *Drassus* found in Britain; there is, however, great diversity in the lengths of a series of examples. The male varies from 3 to 6½ lines, and the female is usually larger.

It is generally found under stones, and blocks of wood in waste grounds, heaths, and pastures, and lives in a tubular nest of thin whitish silk. I have found it very frequently under pieces of detached rock at Portland, and also among the *débris* of old walls and hedges. Its colour is usually a uniform dull-yellowish brown, with a darker elongate marking along the middle of the fore part of the abdomen; but some examples have a strong reddish or coppery hue, which, however, goes off after immersion for some little time in spirit of wine. The falcæ are long, strong, and prominent, with a strong sharp tooth on the inner side of each, by which it may be easily distinguished from its congeners. The digital joint of the male palpus is remarkable for its narrowness, being scarcely broader than the rest of the palpus.

Full-grown examples are very bold and fierce, and will bite sharply when held in the fingers by the legs—not by *one* leg, for it will by a muscular jerk quickly relieve itself of one leg and so escape. I have never found any spider able to escape this way when held by *two* legs, probably because in this case the spider has not sufficient freedom of motion to get the purchase required for the necessary muscular effort of throwing off a leg. The jerk with which this is effected is very strong and easily observed; in fact, one may feel the free legs straining

strongly against the fingers, the jerk follows, and the imprisoned leg alone remains in your possession.

#### DRASSUS PUBESCENS.

DRASSUS PUBESCENS, *Thorell*, Rec. Crit. Aran., p. 110.

„ „ *Cambr.*, Trans. Linn. Soc. xxviii, p. 439,  
and Ann. and Mag. N. H., Ser. 5, I., p. 111.

A much smaller spider than *Drassus lapidicolens*, but bearing a very close general resemblance to it. It may, however, be distinguished, not only by its size, but by the smaller falcies, and by the different structure of the palpi and palpal organs; the radial joint of the palpus (in the male) is, in *D. lapidicolens*, much longer than the cubital, while in the present species it is little, if anything, longer; the digital joint is also shorter in *D. pubescens*.

The length of the male is  $3\frac{1}{2}$  lines, the female being rather larger.

I have met with this very rare spider on two occasions only; once, several years ago, an adult male under a stone on Bloxworth Heath; and again during the past summer (June 16th, 1877) when I found another male, together with a female, under the dry crust formed on the heath in depressed places where turf had been cut and the water had evaporated, leaving a crust of vegetable matter and sand. This crust prevents the sun from parching the soil beneath it, and affords a cool shelter for many rare heath spiders, to search for which among the heather itself would be an almost hopeless task.

#### DRASSUS CRIMINALIS.

DRASSUS CRIMINALIS, *Cambr.*, Ann. and Mag. N. H. S. 4, Vol. 16, p. 224, pl. viii., fig. 3.

An adult female of this spider measured very nearly  $3\frac{1}{2}$  lines in length. It is an obscure, but yet quite a distinct species. The whole of the fore part is bright yellow-brown, the cephalo-thorax bordered by a black line; and the abdomen is of a uniform dull mouse-coloured black, with some very indistinct, pale linear

spots, in two longitudinal curved rows along the middle of the fore part. The eyes of the hind central pair are of a somewhat sub-triangular, or irregular oval shape, placed rather obliquely, and almost, but not quite, contiguous to each other. Legs, 4.1.2.3.

A single example only was met with under a stone in a gravel pit on Bloxworth Heath, in May, 1874. It does not appear to have been yet found on the Continent.

#### DRASSUS DELINQUENS.

DRASSUS DELIQUENS, *Cambr.*, Ann. and Mag. N. H., s. 4, vol. 16, p. 245, pl. viii., fig. 4, and s. 5, vol. 1, p. 110.

A small but very distinct species. The male is about 2 lines in length, and the female 2½.

The cephalo-thorax is of a dull, orange, yellow-brown colour, marked with converging, blackish, irregular lines; the legs and palpi are of a paler hue, and the abdomen is dull yellow-brown, with a longish, wedge-shaped, dark-brown, longitudinal, central marking on the fore part of the upper side, followed to the spinners by a series of distinct angular bars of the same colour, the vertices of the angles being directed forwards, but often broken. The digital joint of the male palpus is rather large, and the projection at its extremity on the outer side has its end rather dilated, something like that of *Drassus troglodytes*. Legs, 4.1.2.3.

I found an adult female under a stone on Bloxworth Heath in May, 1874; and, in June last, adults of both sexes in the same situation as *Drassus pubescens*. It is very nearly allied to a spider abundant in France—*Drassus minusculus*, L. Koch; but it is certainly different from examples of that species sent to me by Mons. Simon.

GENUS CLUBIONA, *Latr.* CLUBIONA, *Blackw.* (in part).

The spiders of this genus bear a great general resemblance to each other, being mostly of a yellowish-brown or red-brown colour of various depths, and pretty thickly clothed with sandy

greyish, or slightly slate-coloured, silky pubescence, concealing more or less, the real colour of the spiders; excepting in a few species, there are scarcely any, and often no distinct, markings on the abdomen. They differ from the three foregoing Genera of *Drassides*, in the position of the eyes, and in the form of the maxillæ. The eyes occupy almost the whole width of the fore part of the caput, forming a narrow, transverse, somewhat crescent shaped, or half-moon figure. The maxillæ are rather long, straight, considerably enlarged at their extremities, and without any transverse impression.

These spiders live chiefly in fine silken, tubular nests, low down among grass and other herbage, as well as often in folded leaves of trees and shrubs, and under old bark, or any other similar shelter.

Fifteen species have been found in Britain, and of these, fourteen have occurred in Dorsetshire.

#### CLUBIONA GRISEA.

CLUBIONA GRISEA, *L. Koch*, Die Arachn., Fam. der Drassiden, p. 319, pl. xiii., fig. 205, 206, 207.

CLUBIONA HOLOSERICEA, *Blackw.*, Spid. Great Brit. and Irel., p. 122, pl. vii., fig. 75.

The length of the male is about 4 lines, and that of the female nearly 6 lines.

The cephalothorax is dull brownish, covered with silky grey hairs; the legs reddish yellow-brown, armed with spines; and the abdomen (which is in this, and all others of the genus, of a comparatively narrow, slender form), is thickly clothed with short, grey, silky hairs. The palpi of the male have the radial apophysis of a very peculiar form. It consists of a strong, rather prominent, crescent-shaped projection, the anterior limb of which is curved, and longer than the other; between this and the palpal organs (lying close alongside the latter) is a straight sharp pointed projection with a strongish prominence towards the point, directed backwards, and giving it a barbed appearance.

This can be only thoroughly explained by accurate figures drawn from several points of view. The radial apophysis, together with the structure of the palpal organs, which differ in each species, require very close and correct observation and comparison, to enable the collector to form any trustworthy determination of the very similarly coloured spiders of this genus. The females closely resemble the males in colours and general characters, and can be readily distinguished only by the form of the genital aperture.

*Clubiona grisea* is a rare spider among weeds and débris of various kinds in low damp places at Bloxworth, and in the neighbourhood, in spring and early summer. I have received it in large numbers from the fens of Cambridgeshire. It is also found in other parts of England, as well as in Scotland.

#### CLUBIONA TERRESTRIS.

CLUBIONA TERRESTRIS, *Westring*, Aran. Suec., p. 395.

C. AMARANTHA, *Blackw.*, Spid., Great Brit. and Irel., p. 123, pl. vii., fig. 76.

Very nearly allied to *Clubiona grisea*, but of a brighter yellowish, and red-brown hue, clothed with rather sandy greyish hairs; and the abdomen has a darker tapering stripe along the middle of the fore half. It may be distinguished readily by the form of the radial apophysis of the male palpus; in the present spider this is strong, of a crescent shape at its extremity, the anterior limb of the crescent being the strongest; and between the bases of the two limbs is a small dark prominence. The palpal organs have a strong, sharp pointed spine, curved round beneath their fore extremity, and projecting on the outer side.

*Clubiona terrestris* is generally distributed throughout Great Britain, and is not uncommon at Bloxworth and in many other localities in this county; it may be found among débris in hedges, and in angles of walls, concealed in a slender, somewhat tubular, silken web. The length of the female is rather over 4 lines, and the male is somewhat smaller.



## CLUBIONA RECLUSA.

CLUBIONA RECLUSA, *Cambr.*, Zoologist, 1863, p. 8567.

The length of the male is about 3 lines, and the female is rather larger. In its general appearance it is very much like *Clubiona terrestris*, though in the form of the radial apophysis of the male palpus, it is more like *C. grisea*. The cephalo-thorax however has some dark vein-like markings upon it, which distinguish it at once from both those species. The radial apophysis is much more developed and prominent, and a strongly bent portion of it projects outwards, almost at right angles, from the joint itself.

Found in woods at Bloxworth and its neighbourhood, in summer time, enclosed within a small silken tube in the folded leaves of underwood and other low plants. I have also received it from several other parts of England. The females show a strong attachment to their eggs and newly hatched young; though this is also the case with some others of this genus, as well as with many other spiders. I have found the present spider completely enclosed in its tubular nest along with the eggs, or recently hatched young; these latter probably soon find their way out and disperse among the surrounding herbage; but by this time the parent spider has become dull and lethargic; and it may often be found in a semi-dried up, or collapsed state, still remaining in the folded leaf, where it would very probably shortly die, its office being performed, its family sent out into the world to shift for themselves, and its further existence of no use.

## CLUBIONA LUTESCENS.

CLUBIONA LUTESCENS, *Westr.*, Aran. Suec., p. 395.

*C. ASSIMILATA*, *Cambr.*, Zoologist, 1862, p. 7953.

This spider is very similar in general appearance to *Clubiona terrestris*, to which it is also nearly allied.

The male is rather under 3 lines in length, and may be easily distinguished from *C. terrestris* by the form of the radial

apophysis, which differs from that of the spider mentioned, in having a longer and stronger crescent-shaped projection. The outer, or anterior, member of the crescent is much longer, stronger, and of a darker colour than the inner one, and is less pointed at its extremity, than that of *C. terrestris*; the palpal organs have also a strong corneous dark red-brown spine connected with them; this spine issues from near their base on the outer side, passes obliquely over them to the inner side, and so beneath and round their extremity, coming up again on the outer side and ending in a sharp prominent point in contact with some semi-transparent membrane. The falces are longer than those of *C. terrestris*. *Clubiona lutescens* is a rare species on bushes and trees in woods at Bloxworth and in the neighbourhood, in the summer time. I have also received it from Glanvilles Wootton, from Mr. C. W. Dale, and it has been found in some other parts of England.

#### CLUBIONA NEGLECTA.

*CLUBIONA NEGLECTA*, *Cambr.*, Zoologist 1862, p. 7955.

This spider is also very like *Clubiona terrestris*; and the male measures a little less than 3 lines in length. It may be distinguished without difficulty both from *C. terrestris* and other species very similar to it in general appearance, by the form of the radial apophysis, which has two members corresponding to those of *C. lutescens*, but the *upper one is much shorter*. The palpal organs have a long, slender, filiform, dark red-brown spine connected with them, quite different from any other species of the genus. This spine is remarkable from its tortuous course; it issues from the inner side of the palpal organs, curves round their extremity on the edge of the digital joint, and thence running back on the outer side, curves round again, and so up over the middle of the palpal organs, terminating in a very fine sharp curved point directed backwards close to their most prominent part.

Very rare, in similar situations at Bloxworth, and at the same season as *C. lutescens*. This species has not yet been found in any other part of England, but is met with in Germany as well as in France.

## CLUBIONA PALLIDULA.

*ARANEUS PALLIDULUS*, *Clerck.*, Sv. Spindl., p. 81, pl 2, tab. 7.

*CLUBIONA EPIMELAS*, *Blackw.*, Spid., Great Brit. and Irel., p. 124, pl. vii., fig. 77.

This spider is larger than either of the foregoing, and has a much greyer look owing to the greyer colour of its hairy clothing, though in reality the spider itself is darker, and has a less yellow-red hue; the forepart of the caput, particularly, is suffused with deep blackish brown, and the abdomen with dark reddish brown.

In the form of the radial apophysis *Clubiona pallidula* is something like *C. grisea*, but the palpi are altogether shorter, the digital joint is smaller, and the outer prominence of the apophysis far less developed.

The length of the male is nearly 5 lines, and the female is larger.

Frequent at Bloxworth, and in many other localities. It is found, especially in an immature state, under decayed bark on hewn timber, gate-posts, railings, and palings, as well as on standing trees. In such situations many examples may often be met with together, though each is generally enclosed in its own separate silken tubular chamber; the rapidity with which they escape from their dwellings when exposed, and drop to the ground, where security is quickly found among the herbage, is remarkable. It is adult during the summer months, and is generally distributed throughout the United Kingdom.

## CLUBIONA CORTICALIS.

*CLUBIONA CORTICALIS*, *Walck.*, Ins., Apt. I., p. 593, and *Blackw.*, Spid., Great Brit. and Irel., p. 126, pl. vii., fig. 79.

This is one of the finest and most distinct species of the genus. The length of the male is very nearly 6 lines, and that of the female is slightly greater. The cephalo-thorax is reddish-brown, the legs and palpi pale; the abdomen is thickly clothed with hairs,

and has the central portion of the upper side, throughout its length, of a yellowish brown colour, with a long tapering dark-brown band along the middle of its fore part, beginning at the fore-margin; the hinder half of the abdomen has a series of obtusely angular, dark-brown bars along the centre, and the sides are also dark brown, the under side being yellowish brown. The digital joint of the male palpus is large, and the palpal organs, though excessively developed, are exceedingly simple, consisting merely of an enormous, short-oval, very prominent, smooth, cornuous lobe, with a small, pointed, curved spine at its fore extremity. This lobe extends backwards far beneath the radial joint. The relative position of the eyes of the posterior row occasionally differs a little in the male and female of this spider; in respect to colour and pattern the two sexes are very similar.

*Clubiona corticalis* is occasionally found at Bloxworth under loose bark, on old, but growing trees, as well as in the interstices of old ivy stems on tree trunks. I have, on several occasions, found the adult male wandering about in rooms and outhouses in May, June, and the beginning of July. Some years ago I met with this spider in great abundance, under the decaying bark of old trees in Sir John Harpur Crewe's Park at Calke Abbey, Derbyshire; and it has also been met with in various other parts of England.

#### CLUBIONA HOLOSERICEA.

ARANEAE HOLOSERICEAE, *De Geer*, Mem. vii., p. 266, pl. 15, fig. 13-16  
C. DEINOGNATHA, *Cambr.*, Zoologist 1862, p. 7957.

The length of the adult male is 3 lines, and the female is sometimes considerably larger.

In general appearance it very closely resembles *Clubiona grisea*, but it is of a more sandy-grey colour, and may be distinguished at once from all other British species by the great development of the falcies, especially in the males; these parts are very massive, and (looked at in profile) are greatly projected, and have a strongly arched outline; their colour is a rich, deep red-brown. The caput is much suffused with deep reddish-brown, the rest

of the cephalo-thorax being yellow-brown; the abdomen is reddish yellow-brown, and has a dark, irregularly edged, tapering band along the middle of the fore part, ending in a point about one-third of the length from the spinners; this marking is a good deal obscured by the greyish-yellow hairs with which the abdomen is clothed.

The palpi are short and slender; the radial apophysis is very like that of *Clubiona pallidula*; the digital joint is small, the palpal organs simple, and not greatly unlike those of the spider just named.

Found in several localities at and near Bloxworth; sometimes in considerable abundance among water weeds, rushes, and under heaps of the preceding year's cut-rushes, grass, and rubbish, in swampy places, in May and June; it has also been sent to me from several other parts of England and Scotland.

#### CLUBIONA BREVIPES.

CLUBIONA BREVIPES, *Blackw.*, Spid. Great Brit. and Irel., p. 127, fig 80.

The adult male measures about  $2\frac{1}{2}$  lines in length, and the female about 3 lines.

This spider is of a dark reddish-brown hue, the fore part of the cephalo-thorax being the darkest; but, like most others of the genus, it is clothed with hairs, in the present instance of a dull greyish hue, considerably disguising its real colours. The form of the radial apophysis of the male palpus is very striking; it is large, rather tumid at its base, and has its termination, which extends over the base of the digital joint, of a sort of strong crescent form; the lower limb of the crescent is much the longest, and ends in a rather curved point, near which is a small angular enlargement.

Found not unfrequently on the lower branches of trees (especially oak trees), in woods, and also on underwood, at Bloxworth, in May, June, and the beginning of July. They may easily be obtained by beating the boughs, and bushes into a large umbrella, or entomological net. I have never yet met

with it in any other situation, though it is found in many parts of both Dorsetshire and Great Britain.

#### CLUBIONA CÆRULESCENS.

CLUBIONA CÆRULESCENS, *L. Koch*, Die Arachn., Fam. der Drassiden, p. 331., Taf. xiii., fig 213-215.

„ VOLUTA, *Cambr.*, Linn. Soc. Journ., xi., p. 553., pl. xiv., fig 3.

The length of the female is  $3\frac{1}{2}$  lines, and that of the male somewhat less.

In general form and colours this spider is very similar to several of the foregoing; the cephalo-thorax is yellowish, clothed with dusky hairs, the legs and palpi paler, and the abdomen reddish-brown, rather densely clothed with fine yellowish-grey hairs; among several lesser differences, that of the form of the process connected with the genital aperture is very striking, and serves to distinguish it readily from all others known to me. This process is large, of a somewhat oval form, rather prominent, and has its posterior margin widened and somewhat convoluted, or turned upwards and slightly backwards. The male has the radial apophysis very strong and of a remarkable shape, not greatly unlike that of *Clubiona brevipes* in an exaggerated form.

An example of the female was found at Bloxworth several years ago, but had been, until lately, overlooked among a number of females of other species. I have also received it from the neighbourhood of Aberdeen. The male has not yet been found in England, but as I have received both sexes from France and Sweden, there is no doubt about its identity with *C. voluta* Cambr.

#### CLUBIONA COMPTA.

CLUBIONA COMPTA, *C. L. Koch*, Die Arachn. x., p. 129, Taf. 358, fig 841.

„ COMTA, *Blackw.*, Spid., Great Brit. and Irel., p. 128, pl. vii., fig 81.

This well-marked and pretty little species may be readily known from the distinctness of the pattern on the abdomen. The

male is scarcely more than 2 lines in length, the female being rather larger. The cephalo-thorax is of a reddish-brown hue, the legs and palpi yellowish brown, and the abdomen is yellow-brown, with (in the female) a dark reddish yellow-brown, longitudinal marking on the upper side, along the middle of the fore part, followed by a series of strong angular bars of the same colour on the hinder half. The male is much darker coloured, and the ground colour of the abdomen may be described as of a dark, slightly reddish-brown hue, with the angular bars formed of opposed, oblique, elongate-oval, pale yellow-brown, spots. The radial joint of the male palpus has a strong apophysis at its extremity on the outer side, and from its end issues a slender, fine pointed, strongly curved spine.

Abundant on the lower boughs of trees, as well as on underwood in spring and summer, in woods at Bloxworth and in many other localities. I have also often found it in autumn (but then immature) enclosed in a silken nest, and rolled up in a dead leaf on the ground; in this way they no doubt safely pass the winter in sheltered and protected spots.

#### CLUBIONA TRIVIALIS

CLUBIONA TRIVIALIS, *L. Koch*, Die Arachn. x., p. 132, Taf 359, fig. 844-845.

The length of the male is about  $1\frac{1}{2}$  lines; its form is very similar to that of several of the foregoing species and its general hue is yellowish, and reddish yellow-brown. The palpi are moderately long, the digital joint is large, but the palpal organs do not present any very distinctive point of structure; the radial apophysis, however, is very characteristic, being a strong production of the outer extremity of the joint, with a broad, obtuse, and somewhat rounded, termination.

The female is larger than the male, but resembles it in colours and other general characters.

Very rare, among heather and on furze bushes, at Bloxworth, in June and July. I have also met with it in Scotland, and in some other localities in England.

## CLUBIONA PALLENS.

CLUBIONA PALLENS, *L. Koch*, Die Arachn., Fam. der Drassiden,  
pl. xiv., fig. 234-236.

„ DIVERSA, *Cambr.*, Zoologist 1862, p. 7959.

Closely allied to *C. trivialis*, but smaller, and of a generally similar, though brighter hue. The two species may be easily mistaken for each other, until the radial apophysis of the male palpus is examined; this portion of structure, in the present spider, is long and rather strong, but instead of terminating in an obtuse, broad, roundish form, it tapers gradually to a bluntish point; the colour of this apophysis is deep reddish-brown. The abdomen is brightish yellow, mottled more or less thickly along the middle of the upper side, and towards the spinners, with bright brownish-red. The legs are of a dull straw colour, and the cephalo-thorax is of a very similar hue.

The female is rather larger, but resembles the male in colour and other general characteristics.

Rare among moss and heather roots on Bloxworth heath. I have also received it from near Glasgow.

## CLUBIONA SUBTILIS.

CLUBIONA SUBTILIS, *L. Koch*, Die Arachn., Fam. der Drassiden,  
p. 351, Taf. xiv., fig. 229-231.

„ PALLENS, *Blackw.*, Spid. Great Brit. and Irel., p. 130,  
pl. viii., fig. 82.

The length of the male is rather less than two lines, that of the female about two lines.

The cephalo-thorax is yellowish-brown, strongly suffused with darker brown on the caput, and slightly tinged with olive-green in the thoracic region. The legs are pale yellowish-brown, and the abdomen is of a dull yellowish-red colour. The palpi are short, and the radial apophysis is rather long, tapering and pointed.

This small species is allied to *C. pallens*, *L. Koch*, and is not rare among water weeds, and rushes in marshy places at Bloxworth in



summer time, and in other localities in the neighbourhood. I have received it in great abundance from the fens in Cambridgeshire.

GENUS CHIRACANTHIUM, *C. L. Koch*. CLUBIONA,  
*Blackw.* (in part).

This genus is nearly allied to *Clubiona*, but the species have much longer legs, with long prominent falces; and the general colouring of the abdomen, in the British species, is greenish-olive with bright rusty-red and yellow markings. The last, or digital joint of the male palpus is remarkable, possessing a strong, pointed, longer or shorter and more or less curved, spur, directed backwards from near its base; the first pair of legs are the longest, whereas in *Clubiona* the longest is the fourth pair. They are found on low plants in woods and on waste grounds.

Four species are at present known to be British, and of these two only have yet occurred in Dorsetshire.

CHIRACANTHIUM CARNIFEX.

CHIRACANTHIUM CARNIFEX, Fabr., *C. L. Koch*, Die Arachn., Bd. vi.,  
Taf. 184, fig. 438-439.

The length of the male is about four lines, and that of the female somewhat more. The abdomen is of a dull grass-green hue, mixed with yellow, and an irregular rusty-red band runs along the middle of the upper side. The falces are long, divergent and porrected. The spur at the base of the digital joint of the male palpus is sharp-pointed, strong, and very slightly curved; and the radial apophysis is slightly indented, or cleft, at its extremity. The digital joint is longer than the radial and cubital joints together, and has a strong angular prominence *near its extremity on the outer side*.

This handsome spider is not unfrequent in summer time, at Bloxworth among low plants in woods and on waste grounds, where it spins its somewhat tubular web among the leaves and blossoms. I have met with it in other parts of England, and it appears to be plentiful near Glasgow.

## CHIRACANTHIUM NUTRIX.

CHIRACANTHIUM NUTRIX, *Westr.*, Aran. Suec., p. 378.

Non. Clubiona nutrix, *Blackw.*, Spid. Great Brit. and Irel.

About the same size as the foregoing, and nearly resembling it in form and structure. It may, however, be distinguished by the cephalo-thorax having no markings upon it; the abdomen also is of a brownish-yellow colour, tinged with red, and has, on the upper side, only an elongated, reddish yellow-brown marking along the middle of the fore part. The falcies are shorter and less divergent than those of *C. carnifex*. The digital joint of the male palpus is as long as, or even a little longer than, the radial and cubital joints together, the radial being nearly double the length of the cubital. The digital spur is less strong, but rather longer, and the angular prominence on the outer side is less developed, and further from the extremity of the joint than in *C. carnifex*; the radial apophysis is also stronger and longer, but is similarly cleft at its extremity, which is likewise a little enlarged.

An immature female was found by my son, Robert Jocelyn, among heather at Bloxworth, in September, 1877.

I had previously only met with this spider in Lancashire, and received it from Scotland. The adult male has not yet been found in Britain; the characters, therefore, of that sex above given, have been taken from examples sent to me by Dr. T. Thorell, from Sweden.\*

GENUS ANYPHÆNA, *Sund.* CLUBIONA, *Blackw.* (in part).

This genus is also nearly allied to *Clubiona*, but differs in having a transverse fold in the integument near the middle of the under-side of the abdomen, concealing an opening into a special spiracular organ. The fore part of the cephalo-thorax is also narrower. Legs 1.4.2.3.

One species only has been found in Great Britain, and it is also abundant in Dorsetshire.

\*Since the above was in press (September, 1878), I have met with both males and females, in the adult state, on fern and heather at Bloxworth, the former sex agreeing exactly with the Swedish examples.

### ANYPHÆNA ACCENTUATA.

ANYPHÆNA ACCENTUATA, Walck., *Blackw.*, Spid., Great Brit. and Irel., p. 131, pl. viii., fig. 83.

The length of the male is rather less than three lines, that of the female being a little more.

The cephalo-thorax is of a yellowish-brown hue, with a broad, irregular, longitudinal, black band on each side. The legs and palpi are similar in colour, but marked and spotted with black. The sternum is yellowish, broadly bordered with black, and the abdomen is of a buffish yellow-brown, slightly tinged with reddish, and has, near the middle, two angular, black lines close together, the angles often broken, and thus giving a strong resemblance to marks of accentuation; the sides and hinder part are thickly marked with black, and a black band runs along the middle of the under-side from the fore extremity to the transverse fold above-mentioned.

The male is usually darker coloured than the female, and has three yellowish spots on the black, thoracic bands; the humeral joint of the palpus has a tuft of long, coarse, black bristles near its base on the under-side, and the radial joint, which is longer than the cubital, has some bristles of a similar kind on the upper side.

This very distinct, and easily-recognised spider is abundant at Bloxworth, and in the neighbourhood, where it is found on bushes, particularly furze bushes when in bloom, on trees, and occasionally under old bark. It is also fond of concealing itself in cracks or crevices of timber. I have frequently found many examples in slender webs between the head of a gate and the post, when the gate has been left for sometime unopened in the spring of the year. It is very active, and parts with its legs easily, if seized by one only at a time.

GENUS AGROECA, *Westr.* AGELENA, *Blackw.* (in part).

The maxillæ in this genus are straight, of moderate length and strength, not enlarged at their extremities, and only a little inclined towards the labium. The fore part of the caput is rather

narrow; the eyes are in two, not very long, curved rows (of which the anterior is the shortest and least curved), forming an oblong, somewhat oval, transverse figure, close to the insertion of the falces, *i.e.*, to the lower margin of the *clypeus*, which is thus almost obsolete. The tibiae and metatarsi of the legs of the first and second pairs are armed, on their under sides, with two longitudinal parallel rows of long strong spines.

The relative length of the legs is 4.1.2.3.

Although included by Mr. Blackwall in the Family Agelenides, *Agroëca* is undoubtedly a Drassid genus, the terminal tarsal claws being two only, the spinners totally unlike those of the Agelenides, and the general form and structure of the spiders being also unmistakably like those of many others of the Drassides.

Two species only are known in Britain, and both of them occur in Dorsetshire.

#### AGROECA BRUNNEA.

AGELENA BRUNNEA, *Blackw.*, Spid., Great Brit. and Irel., p. 159, pl. x., fig. 102.

The length of the male is about 3 lines, that of the female  $3\frac{1}{2}$  to 4 lines.

The colour of the cephalo-thorax is reddish yellow-brown, marked with blackish on the margins, and with some irregular converging lines on the sides. The legs and palpi are yellow-brown, furnished with hairs and spines, and the abdomen (which is hairy and slightly larger behind than in front) is yellow-brown with a somewhat golden tinge, and has a longitudinal dusky blackish marking in the middle of the fore part, followed by a series of similarly coloured angular lines; the sides are marked with blackish spots and markings.

The radial apophysis of the male palpus is rather strong, prominent, sharp pointed, and bent a little downwards at its extremity; the digital joint is large, and the palpal organs well developed and complex.

Found, though very rarely, among moss and grass in woods at Bloxworth. I have also lately received it from Mr. C. W. Dale, by whom it was found at Glanvilles Wootton.

This spider forms a beautiful little white, closely woven, silken, egg cocoon, of a somewhat pear shape truncated at the larger end, and fixes it by a short foot stalk to a grass stem, or to a rush or twig near the ground. The beauty, however, of these little cocoons soon gives way before prudential considerations, for they are quickly covered over with a thick coating of clay mixed with silk, making them look like little pellets of dirt casually stuck upon the stems and twigs. Doubtless this clay coating is intended both for concealment, as well as to secure a more even temperature for the eggs (clay being an excellent nonconductor of either heat or cold) and also to keep off the attacks of insect parasites. I do not think that I have ever myself seen a nest of this spider, but, according to Mr. Blackwall, it measures about 3 lines in diameter.\*

#### AGROECA PROXIMA.

AGELENA PROXIMA, *Cambr.*, Trans. Linn. Soc., vol. xxvii, p. 415, pl. 54, No. 13.

In general appearance, form, and colours this spider is very like *Agroeca brunnea*; it is however smaller, the male measuring no more than one-fifth of an inch in length, and the golden tinge given to *A. brunnea*, from the colouring of the hairy clothing, is never present, so far as I have seen, in *A. proxima*; the pattern also on the cephalo-thorax and abdomen, though very similar, is in general much less distinct.

Some examples have a central, longitudinal, pale line on the fore half of the upper side of the abdomen. The radial apophysis of the male palpus is shorter and less prominent, and the digital joint is smaller; the palpal organs also differ in their structure from those of the preceding species.

\*Since writing the above I have met with an egg cocoon of exactly 3 lines in diameter, and much shorter than those of the next spider, *A. proxima*. This I conjecture to belong to *A. brunnea*. See plate ii., fig. 7a.

The female resembles the male in colours and markings, but is rather larger.

*Agroëca proxima* is abundant among moss and heather, and among débris of all kinds in hedges and woods at Bloxworth and in the neighbourhood. In these situations I also frequently find little pear-shaped egg cocoons corresponding very nearly to those supposed to belong to *A. brunnea*, except in being less in diameter though longer in the bulbous part (plate ii., fig. 7).

They are likewise fixed in the same way to rushes or twigs of heath, grass stems, and rushes. Some of them may be found uncovered if met with before, or shortly after, the eggs are placed in them, but more commonly they are found plastered over as above described. I have often hatched the young spiders from these cocoons, but have never succeeded in keeping them alive longer than to be able to determine their genus. I have, however, but little doubt that those now referred to are made by *A. proxima*, though no parent spider has ever been detected even near a nest, still less in the act of forming it, or coating it with clay.

GENUS LIOCRANUM, *L. Koch.* CLUBIONA, *Blackw.* in part, + AGELENA, *Blackw.* in part, and + DRASSUS, *Cambr.* in part.

*Lioocranum* is nearly allied to *Agroëca*, but the maxillæ are shorter, stronger in proportion, and very little inclined to the labium. The legs are very long, their relative length being 4.1.2.3., and the eyes are rather closely grouped in two nearly concentric curved rows. The front row is, excepting in one species, the least curved, and the convexity of the curve is directed backwards. Looked at in profile the cephalo-thorax slopes gradually forwards, from the beginning of the hinder slope to the eyes, which are placed very near to the lower margin of the clypeus. The legs have two parallel rows of long, strong spines beneath the tibiæ, and metatarsi of the first two pairs. Four species are at present recorded as British, and all of these have been found

in Dorsetshire. One species only (*L. domesticum*, Wider) attains any considerable size, the rest being very small.

#### LIOCRANUM DOMESTICUM.

*CLUBIONA DOMESTICA*, *Wid.*, *Blackw.*, Spid., Great Brit. and Irel.  
p. 132.

The length of the male is about three lines, that of the female four to four-and-a-half.

The cephalo-thorax is yellow, tinged with brown, and the margins, as well as a rather irregular band on each side, are brownish-black. The legs and palpi are of a pale brownish-yellow hue, indistinctly annulated with brown. The abdomen is also dull-yellow, with a brownish tinge; it has, on the upper side, along the middle of the fore part, a black band, broader behind than in front, and following this band are several angular black lines; the sides also are thickly marked with black, and the underside is of a yellow-brown colour. The palpi of the male are long, the radial and cubital joints of equal length, but the latter is the stronger, and the former has a small, rather prominent, pointed, and slightly curved apophysis at its outer extremity. The digital joint is narrow-oval, and the palpal organs are small.

This spider is the largest of the genus, and is apparently very local. I have found it frequently under stones and detached pieces of rock partially embedded in the soil, near Pennsylvania Castle, Portland, in the autumn and late summer months; all were females, and at that time immature, and therefore we may conclude its time of maturity to be in the spring or early summer. It is a very distinctly marked spider, and not likely to be mistaken for any other species of this group, though at first sight it is not greatly unlike immature examples of *Tegenaria atrica*, which is abundant in the same locality and situation; it is also exceedingly active, and escapes with great celerity on being exposed by lifting up the stone. Its usual position appears to be with its legs spread out flat upon the under side of the stone, sometimes

under a thin filmy web, at other times quite exposed, the web having been perhaps torn off in raising the stone.

I have received both sexes, in the adult state, from Lydney in Gloucestershire; and very recently an adult female has been found near Sherborne by my nephew, Frederick Octavius P. Cambridge.

#### LIOCRANUM GRACILIPES.

*AGELENA GRACILIPES*, *Blackw.*, Spid., Great Brit. and Irel., p. 162, pl. x, fig. 104.

*DRASSUS PRÆLONGIPES*, *Cambr.*, Ann. and Mag. N. H., June, 1861.

The adult male measures but one-tenth to  $\frac{1}{8}$ th of an inch in length, the female being rather larger.

The colour of the cephalo-thorax is dull reddish-yellow, with a black linear margin, and suffused, especially in irregular, converging lines on the sides, with dark brown tinged with olive. The legs are very long, particularly those of the first and fourth pairs, and the femora are broad, but of a somewhat flattish form; two parallel rows of longish spines are disposed longitudinally underneath the tibiæ and metatarsi of the first and second pairs; their colour is a clear coppery-yellow, with the femora, tibiæ, and metatarsi of the first and second pairs, as well as the tibiæ and metatarsi of the third and fourth, strongly suffused with blackish olive-brown.

The palpi are similar to the legs in colour; they are long, and the radial is larger than the cubital joint; the radial apophysis is short, blackish, slightly bent, and somewhat obtusely pointed at its extremity. The digital joint is small, and the palpal organs simple. The upper side of the abdomen is yellow, much suffused with dark olive-brown in front, and with a longitudinal series of very distinct, dark brown, angular bars on the hinder part; in some examples these bars might be more correctly described as yellow on a dark-brown ground. The adult female resembles the male in colours; but there is some variety in the brightness and distinctness of colouring in the individuals of a long series of both sexes.



Found near Lyndhurst, Hants, as well as among moss and heather on Bloxworth heath. It is adult in July, August and September, when I have occasionally observed the male running in sandy places in sunshine. In June, 1877, I met with it in abundance among star grass on the sand hills between Little Sea and the seashore near Studland; but all were then immature. This species does not yet appear to have been found on the continent, and it is but very recently that I have been able to identify, as undoubtedly synonymous, *Agelena gracilipes*, Bl., and *Drassus praelongipes*, Cambr.

LIOCRANUM CELER, *Sp. n.*

*DRASSUS PALLIARDII*, *Cambr.*, Trans., Linn. Soc. xxvii, p. 413  
(exclude the synonyms there quoted).

*LIOCRANUM GRACILIPES*, *Cambr.*, l.c. xxviii. p. 440, in part.

An immature female of this spider measured about one line in length.

Although this spider was formerly considered to be only the immature form of *Agelena gracilipes*, Bl. (which it resembles very nearly in general colouring and appearance) the recent capture of numerous examples of that species leads me to believe it to be decidedly distinct, and hitherto undescribed. It may be readily distinguished by the posterior row of eyes being straight, and the interval between the eyes of each lateral pair being consequently greater. The cephalo-thorax has a similar ground-colour, but it is much less generally suffused with brown, the converging markings being black brown and much more distinct. In *A. gracilipes* there is also, on each side of the cephalo-thorax, an indistinct, pale, submarginal stripe, always more or less traceable, while in the present spider it is quite absent. The falces are marked like the cephalo-thorax.

Another very tangible, distinguishing character is furnished by the two anterior pairs of legs, *the tibiæ and metatarsi of which are immaculate*, while the femora and genua are slightly suffused with brown, as well as boldly and distinctly marked with some

large, dark blackish-brown patches; similar markings may also be traced, though in a much less degree, on the femora of the third pair.

The abdomen is black-brown, minutely mottled with yellowish, and has a series of fine angular lines of the same colour, on the hinder half of the upper side. The spinners are of a clear yellow.

The example above described was found on Bloxworth heath in the summer of 1866. It may be easily distinguished also from the true *L. palliardi*, L. Koch, by the characters above given.

#### LIOCRANUM CELANS.

*AGELENA CELANS*, *Blackw. Spid.*, Great Brit. and Irel., p. 161, pl. x., fig. 103.

This spider is also nearly allied to *Liocranum gracilipes*, Blackw., but may be easily distinguished by its generally brighter colouring and more distinct markings, though their general disposition is very similar. It is also rather larger, the male measuring about  $1\frac{1}{2}$  lines in length and the female 2 lines. The cephalo-thorax is dark brown with the margins, and a distinctly defined narrow, central, longitudinal band, of a rather orange-yellow colour. The legs and palpi are reddish-brown, sometimes brownish-yellow; and the abdomen is of a deep rich brown, with a series of bright reddish-yellow, angular bars (or sometimes almost confluent, triangular markings) along the hinder half of the upper side. These angular bars join in with some less distinct, but similarly coloured, markings on the forepart; these latter generally consist of a longitudinal central bar, and one or two indistinct blotches on each side. The legs are shorter than those of *L. gracilipes*, but are similarly armed with spines beneath the tibiae and metatarsi of the first and second pairs. The radial apophysis of the male palpus is straight, and pointed at its extremity; the palpal organs are well developed and rather complex.

I have met with this spider, on two or three occasions only, on

Bloxworth heath, and in the same situations as *L. gracilipes*. It is also found, though rarely, in North Wales.

Mons. Eugène Simon has sent me *L. celans* from France, where he informs me that it is an abundant species.

### GENUS HECAERGE, *Blackw.*

This genus may be readily distinguished from all the rest of the genera of this family (excepting *Micaria Phrurolithus* and *Gnaphosa*) by the convexity of the hinder row of eyes being directed forwards; the anterior row being slightly curved in an opposite direction. The maxillæ are short, strong, straight, and inclined towards the labium. The cephalo-thorax is rather pointed in front; and the tibiæ and metatarsi of the first two pairs of legs are armed with two parallel, longitudinal rows of long, strong, sessile spines.

Two species are known as British, and both of them are found in Dorsetshire.

### HECAERGE MACULATA.

HECAERGE MACULATA, *Blackw.*, Lond. and Edinbro', Phil. Mag.  
3 Ser. iii., p. 193.

„ SPINIMANA, *Blackw.*, Spid., Great Brit. and Irel., p.  
41, pl. iii., fig. 21.

The male of this spider is about one-fifth of an inch in length, and the female one-fourth. The cephalo-thorax is of a pale yellowish-brown colour, marked with a broad brown band along each side, and the margins are also marked with one or two fine lines of the same colour. The hinder row of eyes is curved, the convexity of the curve directed forwards, and that of the front row (which is less curved) backwards. The legs are pale yellow, marked with dark brown spots and lines, and the tibiæ and metatarsi dark brown; beneath these two last joints are two parallel rows of long strong spines, sessile, but moveable at will; and the sternum is pale yellow, with some dark brown marginal spots. The abdomen is pale yellowish-brown, suffused a little

with white in some parts; two broken, blackish lines begin at the fore extremity of the upper side, and enclosing a narrow, somewhat elongate, pointed space, unite about the middle, and continue to the spinners as a row of spots; towards each side of abdomen is also another curved longitudinal, broken, blackish band or stripe. The sides and under side are also spotted with black. The palpi are pale yellowish-brown; the radial apophysis is small, short, and pointed. The digital joint is not large; and the palpal organs are not very complex, but have a curved and pointed process, which extends to their fore extremity.

This is a very active and abundant spider at Bloxworth, and in many other localities both of Dorsetshire and England, among dead leaves and plants in hedge-rows; it is found, also, among heather, as well as in moss in damp places. This spider was included by Mr. Blackwall among the *Lycosides*, chiefly on account of the backward curve of the posterior row of eyes, which causes it to resemble very nearly some spiders of that family; but the possession of only *two* tarsal claws instead of *three* (the constant number in all Lycosid Genera) undoubtedly removes it from the *Lycosides*; and its true place is now generally agreed to be among the *Drassides*.

#### HECAERGE NEMORALIS.

HECAERGE NEMORALIS, *Blackw.*, Ann. and Mag. N. H., 3 Ser. viii., p. 441.

This spider is very nearly allied to the foregoing, and is also of the same size; it is, however, darker, and the markings are not so distinct; the most obvious distinguishing character lies in its rather dense clothing of long greyish silky hairs, which almost wholly conceal its markings. The palpi also and palpal organs differ a little in structure from those of *H. maculata*.

Two examples only have occurred in Dorsetshire, having been found in spring among heather on Bloxworth heath—it had previously only been found among dead leaves in woods in North Wales by Mr. Blackwall.

GENUS PHRUROLITHUS, *C. L. Koch*. DRASSUS, *Blackw.*  
in part.

The cephalo-thorax in this genus is oval. The maxillæ strong, enlarged at the insertion of the palpi, very broad at the base, and inclined towards the labium. The eyes are in two short, transverse, slightly-curved, concentric rows, the convexity of the curve directed backwards.

Only one species is recorded as British, and that one is tolerably abundant in Dorsetshire.

PHRUROLITHUS FESTIVUS.

PHRUROLITHUS FESTIVUS, *C. L. Koch*, Die Arachn. vi., p. 110,  
Taf. 207, fig. 511, 512.

DRASSUS PROPINQUUS, *Blackw.*, Spid., Great Brit. and Irel., p.  
120, pl. vi., fig. 74.

A very pretty little shining, active, ant-like spider, with some brownish yellow-white markings and spots on the abdomen, whose ground colour is deep brown. The length of the male is one-ninth of an inch, the female being rather larger. The cephalo-thorax is brown, clothed with hoary hairs, some of which are disposed in converging lines. The legs are tolerably long, slender, and of a yellowish-brown colour, with the femora of the first and second pairs dark blackish-brown. The palpi are strong; the humeral joint has a prominence near its extremity underneath, clothed with hairs; the radial joint has, at its outer side forwards, a prominent apophysis of (comparatively) enormous size and curved form, its extremity being slightly cleft, or bifid (pl. 1, fig. 15). The digital joint is large and the palpal organs prominent, but not very complex.

Tolerably abundant at Bloxworth, Portland, and other localities in Dorsetshire; being found under stones, among moss and herbage, or débris in hedges, and marshy places; in Portland I have found it frequently under stones on the Weymouth side of the Chesil Beach, close to high water mark. It appears to be very abundant in the Fens of Cambridgeshire.



## FAMILY ERESIDES.

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**A** DISTINGUISHING character of this family is the broad, somewhat quadrate cephalo-thorax, of which the caput is usually very convex, and much raised above the level of the thorax. The eyes form an enormous, nearly square figure, on the frontal part of the caput; the legs are strong, and the metatarsi of the fourth pair in the females have calamistra, while both sexes are furnished with a supernumerary spinning organ immediately in front of the ordinary spinners. Tarsal claws 3.

The spiders of this family are not very numerous, and most of them are tropical or sub-tropical. Mons. Simon has lately divided them into several genera. One only is represented in England, and that by but a single species.

### GENUS ERESUS, *Walck.*

The four outer eyes form a large quadrilateral figure, occupying the whole of the front and sides of the caput, and the four others describe a small figure of the same form just within the straight line formed by the two foremost of the other eyes, and intermediate between them. The maxillæ are straight, enlarged and rounded at their extremities, and not inclined to the labium, which is rather long and pointed at its apex. Legs, 4.1.2.3.

### ERESUS CINNABERINUS.

ERESUS CINNABERINUS, *Walck., Blackw., Spid. Great Brit. and Irel., p. 46, pl. iii., fig. 23.*

Length of the male about one-third of an inch.

The cephalo-thorax of this fine and showy spider is black with a short red tapering band on the hinder part of each lateral margin. The legs are short, strong and black, annulated with white, and furnished with red hairs on the femora of the second, third, and fourth pairs. The palpi are also black with white annuli, and the abdomen, which (as well as all the rest of the spider) is thickly clothed with short hairs, has the upper side of a bright scarlet red, with four large black spots, edged with white hairs, forming a square; and often between this square and the spinners are two other similar, but smaller, spots in a transverse line; the underside is black with a white spot near its hinder extremity, and the spiracular plates are clothed with red hairs.

The claim of this beautiful species to be British rested, up to a recent date, solely on the authority of the late Dr. Leach (Encyclop. Brit., Supplement to the 4th, 5th, and 6th editions). No reference is, however, given either to the finder or the locality, nor yet to the date of capture. An adult male example (now in my possession), one of two examples captured by the late J. C. Dale, Esq., of Glanvilles Wootton, a few years ago, on Parley heath, between Wimborne and Ringwood, and within the limits of the county of Dorset, is therefore the first, and as yet the only, authentic instance of its occurrence in England.†

Few spiders have been the occasion of greater differences of opinion among arachnologists, as to their systematic position, than this one. It has been placed by one or another in the most widely separated positions. By the majority it is placed among or near the *Salticidae*. Conceiving, however, that it has no really true affinity with them, I have placed it here as a separate family immediately before the Genus *Dictyna* (Fam. *Dictynidae*) with the most typical members of which it appears to me to have very much in common, both in structure and form.\* One

† I have lately learnt that an adult male was taken at Bournemouth in 1874, and is now in the British Museum collection.

\* In a recent publication, Dr. P. Bertkau, an eminent German arachnologist, assigns a very nearly similar position to *Eresus*. Verh. d. Nat. Ver. Jahrg. xxxiv., iv. Bd., p. 273.

species which I met with in abundance in Palestine (*Eresus acanthophilus*, Dufour) is also somewhat similar in habits to *Dictyna arundinacea*, forming an irregular snare among the twigs of low plants and shrubs, and living in a cornucopia kind of retreat.







## FAMILY DICTYNIDES.

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**I**N the typical group of this family (*Dictyna*, Sund., *Ergatis*, Blackw.) the caput is more or less considerably elevated, but in other groups not so much; in all it is compressed on its lateral margins, thus differing from *Eresus*; all the females have calamistra on the metatarsi of the fourth pair of legs, the males possessing only the supernumerary spinning organ in front of the usual spinners. The terminal tarsal claws are three in number.

### GENUS DICTYNA, Sund. ERGATIS, Blackw.

The cephalo-thorax in *Dictyna* is, in most instances, considerably raised above the thorax in a very convex form. The falces, especially in males, are long, strongly curved, or excavated on their inner sides, and prominent in front near their base. The eyes are in two transverse curved rows, those of each lateral pair near together. The legs are rather short, 1.2.4.3., and have calamistra on the metatarsi of the fourth pair. The maxillæ are nearly straight, rather rounded at their extremity, and inclined towards the labium, which is large and of a somewhat sub-triangular form. Immediately in front of the ordinary spinners is the supernumerary spinning organ, described in the introductory chapter.

This genus comprises a group of small spiders, whose habit is to spin an irregular snare, consisting of numerous lines crossing and recrossing each other, among the blooms of the rush, or at the extremity of heather shoots, or in and among the leaves of other plants, as well as of low trees. The female lays her eggs in small cocoons within the snare, and carefully guards them until the young are hatched.

Five species are recorded in Britain, three of them being found in Dorsetshire.

#### DICTYNA ARUNDINACEA.

ARANEA ARUNDINACEA, *Linn.*, Syst. Nat. Ed. 10, p. 620.

ERGATIS BENIGNA, *Blackw.*, Spid. Great Brit. and Irel., p. 146, pl. ix., fig. 93.

A small but very abundant spider, in the heath districts of Dorset. Almost every rush stem, and heather twig or bloom, has its extremity tenanted in spring and summer by this pretty, though soberly-coloured spider.

The caput is greatly raised in a rounded-convex form, and, with the rest of the cephalo-thorax, is of a deep brown colour. The fore part of the upperside of the caput is furnished with numerous white hairs, disposed in lines converging forwards. The legs and palpi are strong and of a brown colour, and the abdomen is yellow brown, clothed with greyish or white pubescence, and has a, sometimes irregular, deep chocolate brown, dentated band along the middle of the fore part of the upper side, followed by some broken angular bars of the same hue towards the spinners; the sides are brown mottled with white. The falces of the male are longer than those of the female, and of an irregular, bent form. The radial joint of the male palpus has a very small, short, slightly-curved, bifid-pointed process or spur, projecting at less than a right angle from near the base of the upper side; and the palpal organs have a somewhat corkscrew-shaped, pointed spine directed backwards, and almost reaching the articulation of the radial and cubital joints.

The length of the male is about one-eighth of an inch, and the female is rather larger.

If the snare of this little spider be torn open and the spider exposed to view, it makes no attempt to escape, apparently preferring to share in the general destruction of its home, rather than to find safety by deserting it.

## DICTYNA UNCINATA.

DICTYNA UNCINATA, *Thorell.*, Rec. Crit. Aran., p. 82.

ERGATIS ARBOREA, *Camb.*, Zoologist, 1862, p. 7960.

In general appearance, structure, colours, and markings this spider is very like its near ally, *Dictyna arundinacea*; it may, however, be distinguished without any difficulty, not only by its smaller size—the male measuring no more than one-tenth of an inch in length—but by a striking difference in the spur which projects from the upper side of the radial joint. In the present species this spur is long, nearly as long as the joint itself, rather tapering but also bifid or notched at its extremity (which is dark coloured, the rest being yellow-brown), and springs more nearly perpendicularly, and quite from the base of the joint instead of only from near it. The dark-brown longitudinal band also, on the fore part of the abdomen, is not dentated on its edges; and the transverse bars on the hinder half are more curved than angular, their ends generally terminating with an oblique spot, or short line, of the same hue. These transverse bars are often composed of two fine, approximated, dark-brown lines, frequently more or less obsolete, and seldom equally well represented in any two individuals. The female is rather larger than the male, and (like the female of the foregoing species) of a generally paler hue.

Found in tolerable abundance on trees and bushes at Bloxworth, where it makes its snare in and among the leaves and small twigs. More rarely I have found it in similar situations with *D. arundinacea*. It often forms its snare in the leaves of rank nettles growing under hedge-rows; and appears to be generally distributed in the South of England.

## DICTYNA LATENS.

ARANEA LATENS, *Fabr.*, Syst. Ent., p. 432 (in part).

ERGATIS LATENS, *Blackw.*, Spid. Great Brit. and Irel., p. 149, pl. ix., fig. 95.

This spider is rather smaller than *Dictyna arundinacea* but a little larger than *D. uncinata*, the male measuring about one-ninth of

an inch in length. It may easily be distinguished from both those species by the prevailing hue, which is of a dark iron grey, caused by a dense grey pubescence on a nearly black ground. The abdomen has a broad, dentated, black band along the middle of the upper side, rather tapering at each end; and on the hinder part several whitish angular lines are sometimes visible. In the form of the falces, palpi, and papal organs there is a very close similarity to *D. arundinacea*.

Found frequently on bushes and underwood, particularly on furze bushes on the heath at Bloxworth, and in many other localities in Dorsetshire, when the furze bloom is full out in May and June. It is also common in numerous other parts of England.

GENUS LETHIA, *Menge*. CINIFLO, *Blackw.* (in part).

The spiders of this genus have not the very convex caput of *Dictyna*, nor its peculiarly shaped falces. The maxillæ are strong, straight, enlarged at their extremities and inclined a little towards the labium, which is oblong-oval and truncated at the apex. The eyes are in two transverse curved rows.

The legs are rather short, and not very different in absolute length; their relative length is 1.2.4.3., or 1.4.2.3., the difference between 2 and 4 being very slight. There are calamistra on the metatarsi of the fourth pair, with the supernumerary spinning organs in front of the other spinners; and the terminal tarsal claws are three in number.

The spiders of this genus are all very small; six are at present known as British, four of them being found in Dorsetshire.

LETHIA HUMILIS.

CINIFLO HUMILIS, *Blackw.*, Spid. Great Brit. and Irel., p. 145, pl. ix., fig. 92.

The adult male of this pretty little spider measures about one-twelfth of an inch in length, and the female one-tenth. The cephalo-thorax is of a brown hue, marked with a marginal, and lateral converging, blackish-brown lines. The legs are yellowish-

brown annulated with brownish black. The abdomen is of a pale yellowish-brown on the upper side mixed with white, yellowish, and often with red-brown; it is divided longitudinally by a blackish tapering stripe, and on the hinder half there is a series of strong blackish angular bars, the extremities of which are sometimes a little enlarged. The sides of the abdomen are thickly reticulated with brown lines, and on the under side are two longitudinal bands of the same colour. The female resembles the male in colours and markings, but the ground colour is often much paler, and the pattern consequently more distinct.

The cubital joint of the male palpus has its fore extremity, on the upper side, produced into a short, pointed, curved, reddish spine, and the palpal organs are simple, with a coiled filiform spine connected with their surface.

This is an abundant species, on furze bushes when in full bloom on Bloxworth heath, and is also frequently found running, on warm sunshiny spring mornings, on iron railings on the Rectory lawn. It is also common throughout the southern counties of England.

#### LETHIA MENGII.

CINIFLO MENGII, *Cambr.*, Trans. Linn. Soc. xxviii., p. 441, p. 33, No. 7.

This spider is similar in size and form to *Lethia humilis*, but the male may easily be distinguished by its darker colouring and by the form and structure of the palpi and palpal organs.

The markings on the abdomen are also less distinct, and vary in their colour, being yellow-brown on a deep black-brown ground. The cubital joint of the palpus is also devoid of the characteristic spine found at the fore extremity of the cubital joint of *L. humilis*. The palpal organs are highly developed and prominent, with several processes, and a filiform spine is connected with their surface.

A single example only, found on the lawn railings at Bloxworth Rectory in early summer, has yet been recorded. It has not, so far as I know, been observed upon the continent.

## LETHIA PUTA.

CINIFLO PUTA, *Cambr.*, Zoologist 1863, p. 8570, and Trans. Linn. Soc. xxviii, p. 440.

The length of the female of this minute species is one-fifteenth of an inch, being thus much smaller than either of the foregoing, from which it may readily be distinguished by its almost uniform yellow-brown colour; faint traces, however, of a pattern on the abdomen somewhat similar to that of *L. Mengii* may be seen on a close examination.

A single example only has yet been recorded in England, and this was found by myself at Bloxworth in 1861. It has been found in Prussia, and I have also received it from France.

## LETHIA ALBISPIRACULIS.

LETHIA ALBISPIRACULIS, *Cambr.*, Ann. and Mag. N. H., S. 5, vol. 1, p. 109, p. xi., fig. 1.

This spider is very nearly allied to *Lethia puta*, but is rather larger, stouter, and darker coloured; it is also easily distinguished by the shining white, spiracular plates, beneath the fore extremity of the abdomen. The pattern on the abdomen is somewhat similar to that of *L. puta*, but the vertices of the pale angular lines on the hinder half of the upper side, as well as their extremities, are, each, marked with a minute tuft of white hairs, thus forming three longitudinal and nearly parallel lines of tufts.

The length is about one-thirteenth of an inch.

Three adult females were found under stones on the Weymouth shore of the Chesil Beach, Portland, on the occasion of the first meeting of the Dorset Natural History Society and Antiquarian Field Club, June 1st, 1875.

GENUS AMAUROBIUS, *C. L. Koch*. CINIFLO, *Blackw.* (in part).

This genus forms a passage from the present to the next family (*Agelenides*) in which last it has usually been included. The

character, however, of the abdominal markings, and the possession of calamistra and supernumerary spinning organs, as well as the structure of the ordinary spinners, appear to me to point to its present position as the most natural one.

The maxillæ are enlarged and rounded at their extremity, straight, but a little inclined to the labium, which is of a somewhat oblong-oval form truncated at the apex.

The caput is very slightly higher than the thorax, and its lateral margins are compressed. The eyes are in two transverse, curved rows; those of each lateral pair are separated from each other by a small but distinct interval, which is not very apparent at first sight, as they are seated on contiguous dark-coloured tubercles. Legs 1.4.2.3. Terminal tarsal claws 3.

The species at present known in Britain are three only. They are all of considerable size—one almost, if not (at least in some examples of the female) quite, the largest of our British spiders; and all three are found in Dorsetshire.

#### AMAUROBIUS SIMILIS.

CINIFLO SIMILIS, *Blackw.*, Spid. Great Brit. and Irel., p. 141, pl. ix., fig. 89.

The length of the male is about 5 lines, and the female is (often considerably) larger.

The cephalo-thorax is of a reddish yellow-brown colour, darkest on the forepart of the caput. The legs are very similar in hue, with dark brown annulations; and the abdomen is dark brown with a broad, yellowish, longitudinal, band on the upper side, broadest in the middle; within the fore half of this band is a more or less distinct, large, oblong, dark blackish-brown marking, broadest at its hinder extremity, and generally broken, both longitudinally and transversely, by a pale interval. This is followed, by a series of brown angular lines, to the spinners,

which are short. The palpi and palpal organs are of complex structure; the radial joint is short and strong, but has several projections at its fore extremity; one of these, towards the inner side in front, is rather long, tapering, slender, curved, and terminates in a rather fine, dark, spine-like point.

This is one of our commonest house-spiders, being also abundant under old boards and stones, as well as in holes in gate posts and timber generally; it is likewise found in crevices of all kinds, especially in the cracks and joints of brick walls when the mortar has come out. Round the entrance to the tubular snare formed in such situations, the spider spins various rather irregular lines, some of which often present a somewhat radiating appearance, and are dressed with some flocculent adhesive silk; flies and other insects, becoming entangled in the outer lines, are immediately rushed out upon, seized, and drawn into the nest by the spider who lies in wait not far from its entrance. It is easy to bring the spider to the mouth of its dwelling by gently disturbing the snare with a grass mote. This is, at the moment, mistaken by the spider, for the entanglement of a fly; the ruse is, however, quickly discovered, and the spider retreats at once. Better still it is to drop a fly into the web, when the occupant, if at home, will not fail to make a speedy prize of it. After a little time the spider may be tamed, so far as to take a fly from the fingers, but at first it is necessary to keep out of sight, and to be very wary in respect to the amount of disturbance caused. It is the female only that is found in these situations; the male (when adult) lurks in similar places (though not in a web) by day, and by night roams about, and may be often found, after sunset, crawling on the walls of old dark rooms and passages during the autumn, winter, and early spring months.

Although abundant in England, especially in the southern counties, this spider does not yet appear to have been observed on the Continent; and several attempts to acclimatize it in Germany have hitherto failed of success.



## AMAUROBIUS FENESTRALIS.

AMAUROBIUS FENESTRALIS, *Stroem*, Beskr. ov. Norske Ins., 2 St.,  
in Det Trondhiemske Selsk Skrift iv., p.  
362, pl. xvi., fig. xxiii.

CINIFLO ATROX, *Blackw.*, Spid. Great Brit. and Irel., p. 140, pl.  
ix., fig. 88.

This spider is smaller than *Amaurobius similis*, but is very nearly allied, and bears a considerable resemblance to it in form, colours, markings, and structure.

It may, however, be readily distinguished, not only by its smaller size, the male measuring but  $3\frac{1}{2}$  lines or thereabouts in length, but by its brighter and more distinct markings; the dark marking on the forehalf of the upper side of the abdomen is black-brown, less broken and much more compact, and the caput is also much darker. The radial joint of the male palpus bears a general resemblance in its structure to that of *A. similis*, but the projection on the inner side in front is not so long, less pointed, *i.e.*, somewhat obtuse, paler coloured, and of a less spinous appearance.

The female is larger, but resembles the male in colours and markings.

Found, but rarely, at Bloxworth, under stones and brickbats. It is much more abundant in the North of England, as well as in Scotland and Wales, but is not (so far as I am aware) found in houses or other buildings; or, at least, it occurs much less frequently in such situations than *A. similis*.

## AMAUROBIUS FEROX.

CINIFLO FEROX, *Walck, Blackw.*, Spid. Great Brit. and Irel., p.  
142, pl. ix., fig. 90.

This is one of our largest spiders, the female often measuring upwards of six lines in length and the male about four-and-a-half to five.

It is found in cellars, under the floors of dwellinghouses, in out-houses, as well as (out of doors) under large stones and logs of

wood. It is generally distributed in England ; but in the county of Dorset I have found it more abundantly under large pieces of detached rock near Pennsylvania Castle, Portland, than in any other locality. Like some other spiders it is apt to come out from its lurking place in those states of atmosphere which betoken the approach of rain. It is thus frequently to be seen crawling on the walls and seats of dilapidated churches, and has (I am told) received the name, in the neighbourhood of Plymouth, of " Old Churchman ;" and it is looked upon there with a sort of superstitious respect, not unmixed, however, with ill-concealed, though unreasonable, disgust.

The whole spider has a black and rather sepulchral aspect; when looked at more nearly the cephalo-thorax is of a dusky-brown, tinged with dull yellowish, the caput being much the darkest. The legs and palpi are similarly coloured with, rather indistinct, sooty-black annulations; and the abdomen is dull brownish-black, with the greater part of the fore-half of the upper side dusky yellowish-white, divided longitudinally by two somewhat dentated, but often rather indefinite, curved bands, leaving a broad, central, longitudinal, pale band, pointed behind, and followed to the spinners by a series of dull yellowish-white, angular bars, of which the vertices are often broken and incomplete, and sometimes altogether wanting, or else represented only by small indistinct spots. This last variety constitutes the *Ciniflo mordax* of Blackwall.

The palpi and palpal organs of the male are an exaggeration, in their form and structure, of those of *A. similis* and *A. atrox*; but a very striking and distinctive character of these organs is a large lobe, the most protuberant part of which is white on the outer side, and in a dim light has a shining, and almost semi-luminous, appearance.

The adult female is a bold and powerful spider, and will bite the fingers fiercely when laid hold of. Sport, of a kind, has been furnished before now by ferreting out this spider from its tubular retreat; making use of the uncanny-looking black beetle, popularly known as the " Devil's coach-horse"—*Ocyrops olens*—for a ferret.



## FAMILY AGELENIDES.

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**W**ITH few exceptions the spider of this family may be known, from the foregoing, by the greater length of their very hairy, and spiny legs; and especially by the length of the superior pair of spinners. The cephalo-thorax also (looked at from above) is usually much rounder behind, and the caput more produced forwards, as well as much more constricted on its lateral margins. The eyes are placed in two more or less curved transverse rows; they are not very large, nor greatly different in size, and those of the lateral pairs are not contiguous to each other. Their usual snare is a, more or less horizontal, sheet of web with one or more tubular retreats leading from it, and numerous irregular lines disposed about it. To this, *Argyroneta aquatica*, Latr. (not yet found in Dorsetshire, but abundant in ditches, pools, and ponds in some parts of England), is an exception.

The legs have no calamistra, and there is no supernumerary spinning organ. Tarsal claws three in number. Legs 4.1.2.3.

GENUS CRYPHOECA, *Thorell*. TEGENARIA, *Blackw*, in part + COELOTES, *Cambr.*, in part.

An obscure genus, of which two species only are regarded as British. One of these (not yet found in Dorsetshire) is included by Mr. Blackwall in the genus *Tegenaria*—*T. silvicola*, Walck.—and the other, described by myself some years since, provisionally, as a *Coelotes*, was found in Dorsetshire.

The maxillæ are straight, rounded at their extremity, sometimes inclined to the labium, which is short, broadest at the base, and truncated at the apex. Eyes in two slightly curved,

nearly parallel rows; and the tibiae and metatarsi of the first and second pairs have two parallel, longitudinal rows of spines beneath them.

CRYPHOECA MOERENS.

COELOTES MOERENS, *Camb.*, Zoologist 1863, p. 8572.

The cephalo-thorax of this rare spider is dull, pale yellowish-brown, marked with dark blackish margins and converging lines, and suffused with blackish at the forepart of the caput. The foremost row of eyes is the shortest and nearly straight, and the hinder one curves slightly from it, the convexity of the curve directed backwards. The eyes of the foremost row are very close together. The legs and palpi are paler than the cephalo-thorax, and the former have their tibiae, tarsi, and metatarsi suffused with blackish. The maxillae are strongly inclined to the labium. The abdomen is black, freckled with small pale spots or points; the upper side has a whitish spot on each side of the middle; each of these is followed by an oblong, slightly oblique patch of the same colour, after which come two other patches, on each side, rather more oblique and (like the former) opposed to each other, forming angular lines, interrupted at their apices; between these and the spinners are one or two short, rather curved, transverse lines of a similar hue.

The inferior spinners are longer and stronger than the superior; thus differing from those of the rest of the *Agelenides*.

A single example, not yet adult, and measuring only 1-15th of an inch in length, was found among low plants in Berewood near Bloxworth, in May, 1862, and still remains unique.

I am not convinced as to the correctness of its present systematic position, in which, however, I have placed it in accordance with the opinion of Mons. Eugène Simon, who has carefully examined the specimen here described.

GENUS COELOTES, *Blackw.*

The cephalo-thorax in this genus is of an elongate form, oval behind, broadish in front, and constricted (but not so strongly as

in some other genera) on the lateral margins of the caput, which is of a well rounded convex shape behind the eyes. The eyes are in two nearly concentrically curved rows, of which the anterior row is the shortest, and the convexity of the curves is directed backwards; they do not differ greatly in size, the fore-laterals being the largest, and the fore-centrals the smallest.

The legs are moderate in length, 4.1.2.3, strong, and furnished with hairs, bristles, and spines.

The falces are long, powerful, and very prominent, or gibbous, at their base in front.

The maxillæ are strong and rather of a curved form, broadest towards their extremity, where they are rounded on the outer, and obliquely truncated on the inner sides. The labium is oblong-oval, truncated at the apex, and about two-thirds of the length of the maxillæ.

One species only is as yet known in Great Britain, and that one has very lately occurred in Dorsetshire.

#### COELOTES ATROPOS.

*DRASSUS ATROPOS*, *Walck.*, Ins., Apt. ii., p. 627.

*COELOTES SAXATILIS*, *Blackw.*, Spid. Great Brit. and Irel., p. 169, pl. xii., fig. 109.

Length of the male 5 to 5½ lines; female rather larger. Cephalo-thorax dark reddish-brown, darkest on the caput. The legs are of a rather redder hue than the cephalo-thorax. The palpi (of the male) have the cubital and radial joints short; on the outside of the cubital joint is a large prominent apophysis with two angular prominences on its upper side. At the outer side of the radial joint is a pointed, and in front of it a shorter obtuse, apophysis.

The palpal organs are prominent and complex, with a curved, finely pointed spine on the inner side. The falces are strong, very prominent at the base in front, and like the caput in colour.

The abdomen is oval, rather broadest behind, yellowish-brown, marked, and spotted with black; and has a longitudinal, central, black band, tapering to a line at the spinners. On each side of

this band is a series of oblique, brownish lines, which often unite towards the hinder part and represent the ordinary angular lines.

Examples of this fine spider have very lately (October, 1878) been sent to me by Mr. C. W. Dale, by whom they were found near Lyme Regis in this county. It is usually found under stones, in woods and waste places; and is adult in the spring and summer months. It has occurred more commonly in North Wales, the North of England, Scotland, and in Wychwood Forest, near Oxford. Mr. Dale has also (in 1877) sent it to me from Lynton, in the North of Devon.

#### GENUS *TEGENARIA*, Latr.

The spiders of this genus have the cephalo-thorax very broad-oval behind, and much constricted, laterally, on the margins of the caput. Falces powerful; legs long, well clad with hairs, bristles, and spines. Superior spinners much the longest, bi-articulate, and upturned. Mr. Blackwall describes the superior spinners of *Tegenaria*, and some others of the *Agelenides*, as *tri-articulate*; but the portion he considered to be a basal joint, is no more than a continuous, inarticulate, prominence of the abdomen itself. Maxillæ long, straight, broadest at the extremity, where they are rounded on the outer, and obliquely truncated on the inner side. Labium short, oblong, rather hollowed at the apex.

Most of the genus *Tegenaria* are house-spiders, or, at least, live in houses quite as much as out of doors. They spin a horizontal sheet of web, covered by numerous lines crossing each other in various directions, in the angles of walls, corners of unused rooms and cellars, &c., with one or more apertures near the centre of the web leading to a somewhat tubular retreat, in or at the mouth of which they usually lie in wait.

Five species are at present known in Britain, and four of these have been found in Dorsetshire; the fifth species (*Tegenaria Guyonii*, Guérin, *T. domestica*, Blackw.) is the largest of the group; the extent of its outstretched legs often reaching four

inches. There seems to be no reason why it should not occur in this county. It is abundant in cellars, cupboards, and dark unused rooms at Oxford, as well as in the London district, and home counties. It has been called "The Cardinal Spider" owing to a tradition which connects it in some way with Cardinal Wolsey, during his residence at Hampton Court.

#### TEGENARIA ATRICA.

TEGENARIA ATRICA, *C. L. Koch., Blackw., Spid. Great Brit. and Irel., p. 165, pl. xi., fig. 106.*

This spider is almost, if not quite, as large in the body as *Tegenaria Guyonii*; but it is much shorter in the legs, and more distinct in its colours and markings. The length of the male is sometimes as much as 7 lines, and that of the female 9 lines.

The cephalo-thorax is pale reddish-brown, darkest on the caput, with a narrow, marginal, dark-brown line, and a broad band of the same colour, on each side of the central longitudinal line; these bands are crossed by darker lines following the normal indentations of the thorax. The legs are long, of a yellow-brown hue, tinged with reddish; those of the two first pairs, especially the femoral joints, being by far the deepest coloured. The abdomen is of a pale yellow-brown colour, thickly marked and spotted with deep brown, and leaving, on the upper side, a longitudinal series of pale, yellowish, angular lines, whose extremities are dilated into blotches. The vertices of the angular lines, on the fore part, are obscured by a longitudinal band of the same colour, which, however, in some examples, runs narrowly throughout the abdomen. The spots on the sides run into oblique lines, and those underneath form two parallel, longitudinal, but obscure bands. The sternum is yellowish, with a broad, marginal, black-brown band, spotted with large yellow spots, one opposite to the insertion of each of the legs. The middle joint of each of the superior spinners is blackish.

The radial joint of the male palpus has a large protuberance on the outer side, terminating in a prominent apophysis whose

extremity is obtuse and slightly enlarged. The digital joint is long, the fore extremity being much elongated or drawn out, though less so than in *Tegenaria Guyonii*. The palpal organs are complex, but want the long, curved, slender spine so observable in the last mentioned species.

Found abundantly in cellars, dark unused rooms, and cupboards at Weymouth, as well as beneath large pieces of detached rock near Pennsylvania Castle, Portland, where they spin their snares in the hollows and interstices formed by numerous blocks of stone thrown loosely together. Mr. Dale has also sent it to me from Glanvilles Wootton.

It appears to be rather a local spider, but is found in various other parts of England, though not abundantly. I have also received it from Glasgow.

#### TEGENARIA DERHAMII.

ARANEAE DERHAMII, *Scopoli*, Ent. Carn, p. 400.

TEGENARIA CIVILIS, *Blackw.*, Spid. Great Brit. and Irel., p. 166, pl. xii., fig. 107.

This species is much smaller than *Tegenaria atrica*, the male being only from 3 to 4 lines in length, and the female 5 to 5½; it is also far more abundant, and more generally distributed, being in fact *the* common house-spider of Europe. It also extends its habitation to North America, New Zealand, Africa, St. Helena, and other exotic regions; to some, or all, of which places it has most probably been introduced in merchant vessels, among goods and packages. It is of a dull whitey-brown, or yellow-brown, colour on the abdomen, marked along the middle with a series of somewhat triangular, dark-brown, or sooty-black spots or patches, on each side of which are some rounder ones, also disposed longitudinally; these are sometimes united, and, with other spots and markings of a similar colour form the abdominal pattern. The cephalo-thorax is reddish yellow-brown, with blackish margins and lateral longitudinal bands; and the legs are also of the same colour, the metatarsi



and tarsi being the darkest, and the femora of the male very dark red-brown; the femora and tibiæ are often faintly annulated with dusky blackish. The apophysis near the extremity, on the outer side, of the radial joint is blackish and pointed; the digital joint is similar in form to that of *T. atrica*, and the palpal organs are rather complex, with a strongish, curved, sharp-pointed spine near their extremity.

Found plentifully in all parts of the county, and of Great Britain generally, forming its snare in the angles of cellars and rooms, also behind old boards, in the corners of cupboards, and in old boxes, &c.

#### TEGENARIA CAMPESTRIS.

TEGENARIA CAMPESTRIS, *C. L. Koch*, *Die Arachn* viii., p. 34, Taf. 263, fig 615, 616.

This spider is smaller than *Tegenaria Derhamii*. The length of the adult male being only  $2\frac{1}{2}$  lines, or rather more, and that of the female about  $3\frac{1}{2}$ ; and it is found more frequently out-of-doors than in-doors.

It may be distinguished readily, not only by its smaller size, but by its more distinct colouring and markings, which are very like those of *T. atrica*, though with a paler and clearer ground; especially it may be known (the adult males at least) by the very large size of the digital joint of the palpus, and the greatly exaggerated development of the palpal organs. The penultimate joint of the superior pair of spinners is black, and the legs are annulated with blackish-brown. Adults of both sexes have been met with in early summer, as well as in the month of November.

I have met with it not uncommonly among heather, dead fern and other rubbish, on the sides of banks on Bloxworth Heath; also under heaps of brickbats and stones in the Rectory yard, as well as among casks and firewood in a woodhouse adjoining. Mr. Dale has sent me this spider from Glanvilles Wootton; and I have also found it in Hampshire.

## TEGENARIA CINEREA.

ARANEA CINEREA, *Panzer*, Faun. Ins. Germ, 4, 23, and *Thorell*,  
Syn. Eur. Spid., 514.

TEGENARIA CINEREA, *C. L. Koch*, *Cambr.*, Trans. Linn. Soc.  
xxviii, p. 535.

This spider may easily be known from most of its congeners by its smaller size, the male measuring 3 lines in length, and the female  $3\frac{1}{2}$  to 4; and particularly by its plainer colouring, the abdomen being of a uniform, greyish, luteous colour without markings of any kind. The legs are not so hairy as those of some others of that genus, but more spiny. The palpal organs are complex and highly developed, with a strong, curved spine on the inner side, and a twisted, sharp-pointed spine on the outer side, both near their base.

Adult examples, of both sexes, were found in a dry, unused sewer at Bloxworth Rectory in the autumn of 1872. Their snares, spun in the angles of the sewer, resembled those of *Tegenaria Derhamii*; and their egg cocoons, of a flattish, lenticular form and white colour, were loosely attached by silken threads to the walls, where any inequality existed.

GENUS TEXTRIX, *Sund.*

This genus is nearly allied to *Tegenaria*, but may be distinguished by the caput being still more constricted on the sides, and rather more produced forwards. The spinners of the superior pair are also longer, and the hinder row of eyes instead of having the convexity of its curve directed *backwards*, has it, on the contrary, directed *forwards*, so that the position of the eyes assumes somewhat that of the genus *Lycosa*.

I am not aware that the spiders of this genus are ever found in houses, but generally in crevices of banks, and among loose stones of walls, and such like places; two species only are known as British, both being found in Dorsetshire.

### TEXTRIX DENTICULATA.

*ARANEA DENTICULATA*, *Olivier*, Encyl. Meth. iv., p. 213.

*TEXTRIX LYCOSINA*, *Blackw.*, Spid. Great Brit. and Irel. p. 172,  
pl. xii., fig. 110.

I have found this handsome spider, but rarely in any other locality than in Portland, where it occurs freely in the cracks and crevices of the blue-clay cliffs, and among rocks and stones, and in the walls of old stone quarries; its snare is similar to that of *Tegenaria*, consisting of a thin sheet of web, stretched horizontally near the crack or crevice in which the spider lives; and into this crevice is spun the tubular, or semi-funnel-shaped, passage through which the spider goes in and out. The colour of this spider is nearly black, with distinctly annulated, black and pale coloured legs; the upper side of the abdomen has a broad, longitudinal, dentated band, of a red and yellow colour, mixed with brown and blackish, running from the fore extremity to a little way above the spinners. The cubital and radial joints of the male palpus are furnished with long black bristles, and the latter joint has a strong, sharp projection at its extremity on the outer side. The palpal organs are highly developed and complex.

The length of the male is about 3 lines, and the female is somewhat larger.

### TEXTRIX BOOPIS.

*AGELENA BOOPIS*, *Cambr.*, Zoologist 1863, p. 8571.

A very young example only of this spider has as yet been found. The greater (apparent) inequality in the size of the eyes, as well as a rather different disposition of them, led me to describe it some years ago as a new species. I have more recently had some doubts whether it may not be merely a very young example of *Textrix denticulata*, as I have since found, in reference to some other very young spiders, that in this stage the relative proportion of the eyes appears to be exaggerated,

and their disposition somewhat different. Until, however, I have had an opportunity of examining undoubted examples of *T. denticulata* in an equally immature stage of existence, its identity with the present spider is only conjectural. The example under consideration was found near Bloxworth, but I have no note upon the situation in which it occurred, and which has now escaped my recollection.

### GENUS AGELENA, *Walck.*

Closely allied to *Textrix*, but the spinners are not so long though very similar, and the disposition of the eyes is quite different; the convexity of the curve of the hinder row being strongly directed backwards. The habits of spiders of this genus are also somewhat different, being found in open places among short undercover, such as furze and heath, and among the rank grass and weeds on the sides of banks, and under hedge rows. Three species are at present known as British, one only being found in Dorsetshire.

### AGELENA LABYRINTHICA.

*AGELENA LABYRINTHICA*, *Clerck., Blackw., Spid. Great Brit. and Irel.*, p. 152, pl. x., fig. 97.

This is one of our largest spiders, with whose extensive, horizontal sheet of web, stretched among the rough grass, or among furze and heath, as well as among rank herbage on bank sides, and with a distinct funnel leading from it into the grass, or other herbage behind, everyone must be familiar.

The length of the male is 5 lines and that of the female 5 to 7 lines.

The spider itself is of a sombre blackish hue, with some greyish yellow-brown, angular bars in a longitudinal series on the upper side of the abdomen. The spinning tubes are placed underneath the last joint of the superior pair of spinners.

The cephalo-thorax is reddish-brown, with lateral, longitudinal, dark-brown bands; the central portion as well as the marginal

regions are covered with yellowish-brown hairs. The legs are reddish-brown, the tibiæ and tarsi annulated with darker brown. The cubital joint of the male palpus has a strong, dark-brown projection at its outer extremity, and the radial joint has a longer, more pointed one at its extremity underneath.

The male and female, when adult, appear to live together, in their funnel-shaped silken retreat, in a state of great amity.

It is not easy to capture this spider; in fact, to make sure of it, the collector must come behind the snare very quietly and drop a small particle of a blade of grass, or other substance, among the intersecting lines which cover the horizontal web; this seems to be mistaken for a fly or some other insect, and seldom fails to bring the spider to the entrance of the funnel; the collector must afterwards thrust his hand suddenly into the herbage, and secure the opposite end of the funnel, and then, on the whole domicile being carefully drawn out, the tenant or tenants will be found inside the web. Unless some such precautions as above detailed be taken, the spider seldom fails to escape through the orifice at the hinder extremity of its funnel-shaped nest.

#### GENUS *HAHNIA*, *C. L. Koch*.

The genus *Hahnia* forms a group of small spiders of a short and rather robust form, with the long superior spinners of *Agelena*, and with the spinning tubes similarly situated beneath their last joints; it differs, however, slightly from that genus in the position of the eyes, but most remarkably in that of the spinners. These are upturned, rather divergent from each other, and form a single, transverse, nearly straight line, beneath the hinder extremity of the abdomen; the exterior spinner on each side—representing those of the usual superior pair—being the largest and longest.

Five species have been recorded in Britain, and all of them are found in Dorsetshire.

## HAHNIA ELEGANS.

AGELENA ELEGANS, *Blackw.*, Spid. Great Brit. and Irel., p. 155,  
pl. x., fig 99.

This is the largest of the British species, the male measuring 1-9th and the female 1-8th of an inch in length.

The abdomen is of a dark, blackish-brown colour, marked with a series of obliquely opposed, yellowish, oval, spots, forming angular bars along the middle of the upper side; the rest of the spider is of a brightish yellow-brown tinged with orange, the cephalo-thorax being marked with a longitudinal central, and lateral converging, black-brown lines.

I have met with this spider in holes, such as those made by the hoofs of cattle, in swampy places, as well as among moss and water weeds in similar situations, in the month of June, near Chamberlain's Bridge, between Bere Regis and Wool. It is in such holes, and in other depressions of the surface, that this spider spins its snare, which consists of a small, simple, horizontal sheet of web.

## HAHNIA NAVA.

AGELENA NAVA, *Blackw.*, Spid. Great Brit. and Irel., p. 158, pl. x.  
fig. 101.

„ SUBFUSCA, *Camb.*, Ann. and Mag. N. H., June, 1861.

A very small, dark coloured, and rather hirsute spider; the male measuring about one line, and the female about 1-11th of an inch in length.

The cephalo-thorax is of a deep, glossy, brown-black; the legs and palpi are dark-brown, tinged slightly with yellowish; and the femora and tibiæ of the first and second pairs are of a deeper hue. The abdomen is very dark-brownish or sooty black, the under part being rather paler; and the spinners have an annulated appearance, being dark yellow-brown with pale articulations. The palpi of the male are short, the cubital joint has a small prominent process on its outer side, near the upper part, and the radial

joint has on its under side a curved spine-like apophysis whose point is directed outwards. The digital joint is rather large, and the palpal organs simple, and almost surrounded by a long, slender, black, filiform spine. Some examples are of a deeper hue than others, and often of a slightly olive-greenish tinge. Specimens kept for some time in spirit of wine lose their black hue, and become rather like the next species.

I have found this spider in spring and early summer at Bloxworth, running in sunshine, on iron railings, walls, and posts; also among short grass and herbage in meadows, as well as under the crust left by the drying up of puddles on the damper parts of the heath. It may easily be distinguished from numerous other small blackish spiders, found in some of the above situations, and at the same season of the year, by the peculiar position of its spinners, as well as by its rather hirsute appearance.

#### HAHNIA MONTANA.

AGELENA MONTANA, *Blackw.*, Spid. Great Brit. and Irel., p. 157, pl. x., fig. 100.

The length of the male of this spider is 1 line and that of the female 1-10th of an inch, some examples however being smaller. It may be distinguished from *Hahnia nava* by its more prevailing yellow-brown colour, and less hirsute appearance.

The cephalo-thorax, legs, and palpi are yellowish-brown, the former with a blackish margin, and lateral converging lines of a dusky, blackish hue; the abdomen is dark brown tinged with yellowish and olive, and (when looked at closely) has its surface covered with minute dusky yellowish spots. Some of these, along the middle of the upper side, are arranged in a series of transverse angular lines, indicating more exactly the position of some obscure pale angular bars, while those on the sides are arranged in, either somewhat longitudinal, or oblique, pale lines.

The palpi of the male are very similar to those of *Hahnia nava*, but the digital joint is larger, and the cubital and radial apophy-

ses not so long, though apparently rather stronger in proportion. Also on the outer side, and rather beneath the humeral joint is a longitudinal row of several prominent black spines, or spine-like bristles, which I do not observe in *H. nava*; the palpal organs are much like those of that species, but more convex and prominent.

Found among moss and herbage in woods, and also among heather, at Bloxworth, in spring and early summer, and very lately received from Sherborne, where it has been met with by my nephew, F. P. Cambridge. This is, I have no doubt, identical with Mr. Blackwall's *Agelena montana*, found in North Wales; though, subsequently to the publication of his work (Spiders of Great Brit. and Irel.) I have received from him, under this name, numerous examples, of both sexes, of a larger and quite distinct species—*Hahnia helveola*, Simon (p. 72).

#### HAHNIA CANDIDA.

*HAHNIA CANDIDA*, *Sim.*, Arachn. de France tom. ii., p. 143.

Length of the male scarcely more than 1-18th of an inch. Female slightly longer.

This spider is nearly allied to *Hahnia montana*, but may be easily distinguished by its smaller size, and paler and more unicolorous appearance.

The cephalo-thorax, legs, and palpi are of a yellowish colour. The former tinged with brown, and marked with obscure converging lateral lines of a rather deeper hue. The palpi of the male are short, and the cubital joint has no apophysis; at least, I cannot discern any. The humeral joint has a longitudinal row of several small black spines, on the outer side rather underneath; the radial joint is prolonged behind into a longish, fine-pointed, tapering, curved apophysis, curving round outwards, and its point directed forwards on the outer side; the digital joint is very large; the palpal organs are simple, directed inwards, and encircled by a very fine reddish-brown spine.

The abdomen is of a short-oval form, of a dull yellowish-brown colour, marked above with a short, longitudinal, central,



obscure, dusky-brown line, and followed by a series of obscure angular lines of a similar hue. These lines are long, spanning the whole upper side of the abdomen, and each portion of the lines is rather curved. Spinners normal. The sexes are similar in colours and markings.

I met with adult examples, of both sexes, under stones near Pennsylvania Castle, Portland, some years ago, in the months of September and October, and have also received it from Scotland.

This is its first record as a British spider, as distinct from *Hahnia montana*, with which it was at first confused; the male is new to science; the female, only, having been described by M. Eugène Simon (l. c. supra).

#### HAHNIA HELVEOLA.

*HAHNIA HELVEOLA*, *Sim.*, *Arachn. de France*, tom. ii., p. 139.

Length of the male,  $1\frac{1}{3}$ rd of a line; the female being rather larger.

This spider may be distinguished from *Agelena montana*, Bl., by its larger size, paler colour, less distinct markings, and the long hairs on the abdomen and legs.

Cephalo-thorax, dull yellow-brown, rather elongate; legs rather paler, and furnished with numerous long coarse hairs. Palpi (of the male), similar in colour to the legs; the cubital joint has, towards the hinder extremity, and rather beneath the outer side, a small, prominent, somewhat bent, spine-like apophysis; and the radial joint, which is shorter than the cubital, has its outer side, rather underneath, produced into a longish, dark, pointed spine, curved upwards and backwards in a circular form, so that its fine point is in contact with the fore margin of the joint. The digital joint is large; the palpal organs very simple, and encircled by a fine black spine.

The abdomen is of a dull brownish-grey hue, clothed with longish, coarse hairs, and with a series of rather long, obscure, angular bars, of a deeper colour, along the upper part. Spinners normal, but rather longer than those of *Hahnia montana*. The sexes do not differ in colours and markings.

This spider has been confused with *Agelena montana*, Bl. I have found it (though rarely) at Bloxworth, among moss in woods, in spring and autumn; and have received numerous examples from North Wales from Mr. Blackwall, under the name of *Agelena montana*. This is its first record as a British spider.





## FAMILY SCYTODIDES.

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**T**HIS family consists of a small group of, mostly exotic, six-eyed spiders, with longish weak legs, and a lame, halting mode of running. The cephalo-thorax is of peculiar form, its hinder part being large, very convex, and more or less elevated above the level of the fore part, and shewing none of the ordinary divisional indentations, but sloping off gradually from the posterior to the anterior extremity, which is rather narrow; near this the eyes are placed in three groups, of two, contiguous eyes in each group, forming a triangle whose apex is in front.

The spiders of this group are generally found in houses, or other old buildings, and among ruins. Two genera only are known in Europe, one of these being represented in England.

### GENUS SCYTODES, *Latr.*

The hinder part of the cephalo-thorax is remarkably elevated or humped; the thoracic region being greatly developed, apparently, at the expense of the caput, which is small. The posterior slope is vertical, and from the highest point the slope is rapid, but even on all sides, the ordinary grooves and indentations being nearly or quite obsolete. The lateral margins of the caput are compressed below the eyes, close to the fore extremity, which is truncated. Legs rather long, slender, furnished with hairs only—4.1.2.3.; terminal tarsal claws three in number, the two superior ones strong, the inferior very small. Maxillæ weak, pointed at their extremities, enlarged at the base, and much inclined towards the labium, which is of a sub-triangular form rounded or truncated at its apex.

On account of the number of its eyes *Scytodes* was placed by Mr. Blackwall in close proximity to *Dysdera* and other six-eyed spiders. The better opinion seems to be, that it is (as here placed) near the *Pholcides* and *Theridiides*, that its true position is to be assigned.

#### SCYTODES THORACICA.

SCYTODES THORACICA, *Latr., Blackw.*, Spid. Great Brit. and Irel., p. 380, pl. xxix, fig. 272.

Length of the female nearly 4 lines.

The cephalo-thorax is yellow, boldly, but rather irregularly, marked with black-brown. The legs are also yellow; in one example (an adult) the genua, both extremities of the tibiæ, and the hinder extremity of the metatarsi, were deep black-brown; in an immature example the femora and tibiæ were thinly spotted, or irregularly annulated, with a similar hue. The palpi are like the legs in colour and markings. The falces, sternum, maxillæ, and labium are also yellow, the falces marked in front with a blackish spot or patch. The abdomen is somewhat globular, of a paler and duller hue than the rest, marked with black spots and patches, forming two longitudinal, central, parallel lines, with some others slightly oblique, but nearly vertical, on the sides. Spinners short, and compact.

The palpal organs of the male of this spider (as well as of all other known males of this group) are exceedingly similar in form to those of *Segestria*, and the various genera of the *Theraphosides*, consisting of a pear-shaped corneous bulb, attached to the digital joint of the palpus by its larger end.

Until of late years, the claim of this spider to a place in the British fauna rested on the authority of Dr. Leach, who states (*Encyclop. Britt. Art. Annulosa*, Suppl. to the 4th, 5th and 6th Editions) that two females had been found near Dover. In 1861 I found an adult female in an outhouse at Bloxworth Rectory; and, more recently, an immature one at St. Alban's Hall, Oxford. It must, however, be regarded as one of our rarest spiders, and, in these northern latitudes, not likely to be often met with.



## FAMILY PHOLCIDES.

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THIS family consists of spiders possessing *eight* eyes, in the only known British genus, as well as of others, both European and exotic, with but *six* eyes. They may be known by their small, generally somewhat cylindrical abdomen, and excessively long slender legs, as well as by the prominence of the fore part of the cephalo-thorax near the falces. The tarsal claws are 3. The eyes of the eight-eyed species are placed in three groups—two lateral groups, each consisting of three contiguous eyes of tolerable size, and between these the third group of two other eyes, contiguous to each other and very small, is placed in a tranverse line. In the six-eyed species, the central group is wanting; they are found almost always in houses, ruins, or in buildings, of some kind; or, occasionally, under and among large stones and rocks, lying loosely in heaps. One genus only (having eight eyes) is represented in Great Britain.

### GENUS PHOLCUS, *Walck.*

The thoracic region is round, with a large, deep pit, or indentation in the middle; the eyes are in three groups as above mentioned, and the legs exceedingly long and attenuated, their relative length being 1.2.4.3. Maxillæ long, narrow, enlarged at their base, tapering to their extremities, and curved round the labium, which is large, narrow at the base, broad in the middle, and rounded at the apex.

## PHOLCUS PHALANGIOIDES.

PHOLOUS PHALANGIOIDES (*Fuesslin*), *Blackw.* Spid. Great Brit. and  
Irel. p. 208, pl. xv., fig. 137.

Length of the male, 3 lines, and of the female 4.

This the only known British species of Pholcides, and it is, so far as I am aware, confined to the southern parts of England, over which it is generally spread. In unused rooms, lofts, and outhouses, at Bloxworth, it is exceedingly abundant; spinning large sheets of irregular webs in the corners and angles, adding to them year by year, until at last the whole ceiling becomes covered by them, hanging in large festoons, when, at length, they often break down by the weight of accumulated dust. This spider may be easily known by its small, almost cylindrical, but slightly constricted, abdomen, and very long, slender, hairy legs. The colour of the cephalo-thorax is pale brownish-yellow, with a longitudinal, central, brown band, broadest behind. The legs are pale brown, and the abdomen is very like the cephalo-thorax in colour, with a broken band of a darker colour along the middle of the upper side, and some similarly coloured spots along the sides. Its eggs are joined together by silken lines, in the form of a little ball, which it carries in its mouth until the young spiders are hatched. The movements of this spider, though tolerably quick at times, are generally lame and awkward; it has a remarkable habit (observed also in some other spiders of a widely removed family, *Epeirides*) of giving itself a peculiar, and rapid, vibratory motion, on a slight disturbance of its web, and sometimes on the mere approach of anyone towards it. This is done at times perhaps under the influence of fear, but at other times probably under an impression that some insect is getting into the web, and so, by way of a little help, to entangle it the more certainly; the web also being thus caused to vibrate, or shake very quickly to and fro; the exact mechanical means by which these vibratory movements are effected, I have never been able to observe satisfactorily.

*Pholcus phalangioides*, like some other widely separated spiders, overpowers its prey by spinning lines round it, turning it round and round rapidly with the legs until it is completely enveloped, and then carrying it off into the recesses of its snare. The following detail of an operation of this kind, which I had lately an opportunity of witnessing, seems to be worth recording:—

A fly of tolerable size became entangled among the outer lines of the snare; the spider immediately approached, but no nearer than just to reach the fly with the legs of the hinder (or fourth) pair; it then drew silken lines from its spinners, and, with the same legs, secured them to the fly; this was immediately followed by a rapid, alternate winding action upon the fly, effected also by the fourth pair of legs, occasionally assisted by one of the third pair. The fly was thus quickly and completely wound up, and at once carried off to the recesses of the snare in the claws of the fourth pair of legs. No bite was inflicted upon the fly, which possibly may have been thus kept a living captive for days to come in the spider's larder. Some species of *Epeirides* practise a very similar mode of securing their prey.

The palpi and palpal organs of the male are very remarkable. The radial joint is very large, tumid, and of an oval form; the digital joint small and roundish. The palpal organs are enormously developed, consisting of several strong, corneous, pale yellowish, and deep red-brown processes. With some modifications, a somewhat similar structure seems to prevail in all the species of this genus.





## FAMILY THERIDIIDES.

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THE spiders of this family may be characterized, generally, as of small size, but with the abdomen usually very large in proportion, and often, especially in females, globular, or nearly so, in form; the legs, too, are slender, but not often immoderately long. They are furnished with hairs, frequently with bristles, and, in some groups, with spines, and the terminal tarsal claws are three in number. The eyes are in two transverse curved rows, not very far distant from each other; but the four centrals nearly always form an almost square figure. Their snare consists of either a thin, horizontal sheet of web, with intersecting lines above and below, or else some irregular lines crossing and re-crossing each other, and so forming a kind of maze, in which their prey is entangled and their egg cocoons placed. The species are very numerous, and among them are some of the smallest known spiders, not exceeding in length the twenty-fifth of an inch. They are found in greatly diversified situations, sometimes almost exclusively in buildings; but usually on plants, shrubs, and trees; among grass and herbage of all kinds; under stones; among moss and dead leaves; on all kinds of soil; and in marshy, as well as in dry places. The spiders usually called Gossamer spiders, those, that is, to which are due the floating lines and white flakes of web, so noticeable, especially on a warm, bright September or October day, mostly belong to this family. At that season, as well as in the spring-time of the year, the young of these small spiders are exceedingly aeronautic in their habits.



GENUS EPISINUS, *Walck.* THERIDION, *Blackw.* (in part).

The general form and appearance of the only spider of this genus, found in Great Britain, are so remarkable, and so aberrant from the typical genera of the family, that no difficulty will be found in recognising it should it be met with; indeed, the difficulty is to retain it consistently in its present position. Few persons would at first sight consider it to belong to the Theridiides. In some respects it bears considerable resemblance to some of the *Thomisides*, especially to the spiders of a very remarkable group allied to that family.—*Stephanopsis*, Cambr., found in Australia, where, however, no examples of *Episinus* have yet been found. In South America *Episinus* occurs in company with some other spiders distinctly intermediate between it and the Australian *Stephanopsis*.

The cephalo-thorax is much the broadest behind, and of a flattish form, the thorax higher than the caput. The eyes are small and placed in the form of a segment of a circle, whose convexity is directed forwards. The relative length of the legs, which are without spines, is 1.4.2.3., 1 and 4 are long, 2 and 3 very much shorter; the length of those of the third pair not much, if at all, exceeding that of the spider itself. The maxillæ are moderate in length and strength, enlarged at the insertion of the palpi, obliquely truncated at their extremity on the outer side, and strongly inclined toward the labium, which is almost semicircular, though slightly pointed at the apex.

## EPISINUS TRUNCATUS.

EPISINUS TRUNCATUS, *Walck.*, Ins., Apt. iv., p. 371.

THERIDION ANGULATUM, *Blackw.*, Spid. Great Brit. and Irel., p. 202, pl. xv., fig. 133.

The length of the female is one-seventh of an inch, and the male is rather smaller.

This spider may be known at once, from all others of the family, by the form of the abdomen, which is rather flattened

above and narrow in front, but widens gradually to the hinder extremity, where it is broad, very steep, and truncate, and has a small subconical prominence at each upper corner.

The legs are of a yellowish-brown hue, annulated with red-brown; they are rather slender, and the movements of the spider are slow and awkward. The cephalo-thorax has a broad, deep reddish-brown, central stripe, with some lateral markings of the same colour on a paler yellowish-brown ground.

The colour of the abdomen is dark yellow-brown, with an indistinct pattern, mixed with red-brown, pale-yellowish, and black on the upper side; round the lateral margins of which an irregular black line runs, as far as the beginning of the steep posterior slope, where it is continued transversely, and connects the two subconical prominences. The posterior slope is often marked with some strong, angular, black markings.

The palpi are slender; the digital joint of that of the male is of (comparatively) enormous size, and, with the palpal organs, which are complex, forms an unusually large, oblong-oval, club-like termination to the palpus.

This spider is not rare among heather, moss and herbage on Bloxworth Heath, where it may be found by tearing up the heather, and shaking out its contents on a sheet of paper, or by raking with a crooked stick under the heathy ledges and ridges. Mr. C. W. Dale has sent it to me from Glanvilles Wootton; it is also found in many other parts of England, and in North Wales.

I have not yet succeeded in finding it in any kind of web, or snare. It is adult during the summer months, and the young spiders, hatched in the latter part of summer, like numerous other spiders, live through the winter.

GENUS PHOLCOMMA, *Thorell*. THERIDION, *Cambr.*  
(in part).

This genus possesses all the characteristics of the *Theridiides*; and except for one character—the peculiar disposition of the eyes—and it could scarcely be separated from the next genus (*Theridion*).

The eyes are very unequal in size, and are placed in three groups (almost exactly like those of *Pholcus*); three eyes of considerable size and contiguous to each other, form a group on each side of the fore part of the caput, and two minute eyes are placed, near together, in a transverse line between these two groups. The legs are short and without spines.

#### PHOLCOMMA GIBBUM.

ERIGONE GIBBA, *Westr.*, *Aranæ Suec.*, p. 279 (1861).

THERIDION PROJECTUM, *Cambr.*, *Zoologist* 1862, p. 7962.

An exceedingly minute, but very curious little spider. The male measures one-sixteenth of an inch in length, and the female is slightly larger. It is found, though rarely, among heather on Bloxworth Heath in April and May; and recently I have found it, on two or three occasions, under a verandah at the Rectory. Besides the position of the eyes, mentioned above, the male has a sort of sharpish-edged, eaves-like projection, all round just below the upper side of the abdomen, which is large and of a somewhat globular form. The cephalo-thorax and legs are of a red-brown colour, and the abdomen rather darker; the cuticle being somewhat coriaceous, and mottled thickly with paler, depressed points, or punctures, and clothed thinly with short, strong hairs. The abdominal projection is but slightly visible in the female.

I have also received this spider from the North of England, and several parts of Scotland, as well as from the Island of Serk.

GENUS THERIDION, *Walck.* THERIDION, *Blackw.*  
(in part).

The spiders of this genus are mostly of small size, and have tolerably long, slender legs, furnished only with hairs and occasionally strongish bristles; their relative length is 1.4.2.3. The abdomen is in most cases large, and more or less globular in form, excepting in some males, in which it is either cylindrical,

or oval. The eyes are in four pairs, tolerably closely grouped together, the four central eyes forming either a square, or very nearly one; and those of each lateral pair are contiguous to each other; most of the species of *Theridion* are prettily marked, and sometimes rather richly coloured. The males are usually much the smallest, and often have, as above mentioned, a differently shaped, and always much smaller abdomen.

Eighteen species are known as British, thirteen being found in Dorsetshire.

#### Theridion formosum.

*Araneus formosus*, *Clerck.*, Sv. Spindl., p. 56, pl. iii., tab. 6.

*Theridion sisypum*, *Blackw.*, Spid. Great Brit. and Irel., p. 179, pl. xiii., fig. 113.

This is a rare spider in Dorsetshire; the length of the male is about 1-8th of an inch, and that of the female 1-6th. I have met with it, on three or four occasions only, in Bere Wood, near Bloxworth, in its web spun among ivy on the trunks of trees. It is a very variable spider in its colouring, but the abdominal markings are peculiar, and similar in all the numerous varieties that have come under my notice. The abdomen of the female is proportionally very large, and exceedingly globular on its upper side. The prevailing colours are generally black, white, yellow-brown, and red; the characteristic markings consisting of some curved, parallel, narrow, and rather oblique, stripes on each side of the fore extremity, with some others rather divergent, behind them; the convexity of the curve being directed backwards.

I have met with this spider at Hursley, near Winchester, and it has also been found in some few other localities.

#### Theridion tepidarium.

*Theridion tepidarium*, *C. L. Koch*, *Blackw.*, Spid. Great Brit. and Irel., p. 180, pl. xiii., fig. 114.

This spider is considerably larger than the foregoing, the male measuring 1-5th and the female 1-4th of an inch in length; though

nearly allied, it is, however, of a much plainer colour, the hues seldom varying beyond brown of different shades, and light yellow-brown, deepening to reddish in the males. The characteristic pattern of *Theridion formosum* is generally observable in the present species, which is found, almost invariably, in greenhouses, conservatories, and hothouses. But one instance is, I believe, known of its being found in any other situation; in that instance I found an adult male in the Rectory garden at Bloxworth, where there is neither greenhouse nor conservatory; nor is there one in the village; I look upon this, however, as an accidental occurrence. The spider may possibly have been brought from the nursery-gardens at Blandford, with plants, or flower pots, among the moss and other packing materials.

*Theridion tepidariorum* has an exceedingly wide range; being dispersed over the whole of Europe, as well as in various exotic regions, Australia and New Zealand; and it appears to be always found in such situations as I have mentioned. It has occurred in various parts of England, and I have also met with it in the Botanic Gardens, at Edinburgh.

Since writing the above I have found a second example of the male in the porch of Bloxworth Rectory.

#### THERIDION RIPARIUM.

THERIDION RIPARIUM, *Blackw.*, Spid. Great Brit. and Irel., p. 182, pl. xii., fig. 115.

This is another spider nearly allied to the two foregoing, but much smaller, and darker coloured than the last. The length of the male is  $\frac{1}{4}$ th of an inch, that of the female rather more. The abdomen is of a rich, chocolate red-brown, with white markings; and it is also rather smaller than *Theridion formosum*; its habits are to spin its irregular snare among roots and grass stems under overhanging banks, and in this snare is suspended a rather long, cylindrical, silken tube, which the spider encrusts with particles of earth, bits of dead leaves and dry sticks; within this tube the female lives and forms her egg-cocoon. The pattern found in

the two foregoing species, of curved lines on the upper part and sides of the abdomen, is found also in this spider, and constitutes its chief characteristic markings.

A single example of the adult male was found under a heathy ledge near Poole, in the month of June. It is not uncommon in North Wales; and I met with it once in great abundance among the Austrian mountains near Ischl.

#### THERIDION SISYPHIUM.

*ARANEUS SISYPHIUS*, *Clerck.*, Sv. Spindl., p. 54, pl. 3, Tab. 5.

*THERIDION NERVOSUM*, *Blackw.*, Spid. Great Brit. and Irel., p. 180, pl. xiii, fig. 116.

This is one of the most abundant, and generally dispersed among British spiders; and perhaps also one of the prettiest. The length of the male is 1-7th of an inch, that of the female  $\frac{1}{4}$ th. It is found on most low-growing plants and shrubs, especially upon furze bushes and hollies; among the small shoots and branches of these it spins, in the spring and early summer months, an irregular maze of lines crossing and recrossing each other in every direction; many spiders often form their snares close to one another, and so make the whole plant, or bush, a mass of web. The egg cocoon is of a rounded form, and dull green colour, and is suspended beneath a pretty, dome-shaped, tent-like, retreat, or sometimes enclosed in a leaf, and carefully watched over by the mother. The little tent, and indeed other portions of the web, are usually covered, and sometimes almost concealed, by the débris of insects, bits of dead leaves, and other substances; these are stated by some authors to have been purposely placed there by the parent spider; but, in the absence of direct evidence to this effect, I am inclined to think that their presence, though unavoidable, is unintentional on the spiders' part.

Like the foregoing species the abdomen of the female is very large and globular; it is prettily varied with lines and markings of reddish, white, brown, and yellow; two broad,

longitudinal, bands of dark-brown, on the abdomen, are each crossed by several pale white, or yellowish lines. The longitudinal space between the bands is often of a red-brown hue. The cephalo-thorax has a longitudinal central, and two lateral bands of red-brown, on a reddish-yellow ground, and the legs are annulated with pale red-brown on a yellowish-brown ground colour. The male is not so distinctly nor so prettily marked, and its abdomen is small, and of an oblong form.

*THERIDION DENTICULATUM*, *Walck, Blackw.*, Spid. Great Brit. and Irel. p. 185, pl. xiii., fig. 118.

Length of the male about 1-9th or 1-10th of an inch, the female being rather larger.

This pretty little spider is generally abundant among trees and plants trained on walls; and may be also commonly found in any sheltered corner or crevice on the outside of houses, such as the angles of doorways, windows, porches verandahs, and in green-houses; in such situations it occurs abundantly at Bloxworth and in many other localities in the county of Dorset as well as throughout England, and also in Scotland. It is adult from May to July. The colours are simple dark-brown, mixed with black, white, or yellowish-white; and it may be easily known by a very distinct, dentated band of a pale colour (sometimes pure white) on a dark ground, running from one end to the other of the upper side of the abdomen; on the sides also there are some, slightly oblique, lines of alternate black and white (or whitish) spots. The legs are annulated with dark-brown on a pale yellowish-brown ground colour.

#### *THERIDION FAMILIARE.*

*THERIDION FAMILIARE*, *Cambr.*, Trans. Linn. Soc. xxvii., p. 418 pl. 55, No. 15.

Length of the male 1-12th of an inch, that of the female 1-10th.

This is a very near ally of the last spider, though it differs not only in being rather less in size, and in several small

though constant, structural characters, but also in its colouring ; this is of a more or less bright reddish-brown, varied with white, brown, and yellowish markings ; the pattern is very similar to that of *Theridion denticulatum*, with a similar dark angular patch at the thoracic junction ; but the denticulations of the abdominal band are not so sharp, nor so well-defined ; and the whole colouring is constantly different from the sober brown, white, and blackish hue of that species. I have never found this spider anywhere excepting in lofts, unused rooms, and outhouses ; it is occasionally to be met with in such situations at Bloxworth ; and in the angles and in corners of the ceilings, or in other suitable positions, it spins its web. It is as yet unknown on the continent, and is adult in May, June, and July. An unfortunate cleansing and sweeping out, to which (unknown to me till afterwards) the chief haunt of this pretty little spider was subjected several years ago, has left it since then very scarce. As, however, it is now "strictly preserved" I hope to get up the stock again some day.

Since the above was written I have found (during June and July, 1878), several adults of each sex, and numerous immature examples in another outbuilding at Bloxworth Rectory.

#### Theridion Varians.

Theridion Varians, *Hahn.*, *Blackw.*, Spid. Great Brit. and Irel., p. 188, pl. xiv., fig. 120.

This is a spider of much less frequent occurrence in Dorsetshire than *Theridion denticulatum*, though found in similar positions, as well as on plants and shrubs near dwellings. Its general colouring is altogether paler. The cephalo-thorax has a broadish, dark-brown, or blackish, central longitudinal band on a whitish-yellow ground, and a broad dentated one of a dull reddish-brown hue runs along the middle of the upper side of the abdomen the rest of the abdomen being brown, or yellowish-brown. The legs are annulated with black, on a whitish-yellow ground. The length of the male of *T. varians* is about 1-10th of an inch, and



that of the female  $\frac{1}{2}$ th; some individuals, however, are smaller.

*T. varians* appears to be generally distributed throughout Great Britain, and is not unfrequent in greenhouses and conservatories, as well as in the other situations mentioned.

#### THERIDION TINCTUM.

THERIDION TINCTUM, *Walck., Blackw.*, Spid. Great Brit. and Irel., p. 109, pl. xiv., fig. 121.

Length of the male 1-12th of an inch, that of the female 1-10th.

Though nearly allied to *Theridion varians* this spider may easily be distinguished by a greenish tinge upon its general white and yellowish ground colour, as well as by the pattern both of the abdomen and cephalo-thorax; that on the abdomen is broken up, and a good deal confused by black markings, spots, and blotches; the legs also are longer, very slender, and more distinctly spotted and annulated with black. The cephalo-thorax has a blackish, triangular marking, running from the hinder row of eyes to the thoracic indentation, where its finely-pointed apex terminates. So far as my own experience goes it is never found on walls, nor in the angles and crevices of doorways, &c., like *T. denticulatum*, nor in greenhouses like *T. varians* and *T. pictum*; but always on low trees and shrubs, or on the lower boughs of high trees. In such situations, especially on apple trees, it is abundant at Bloxworth and also at Glanvilles Wootton, and is adult at the end of May and in June. I have met with it also in Hampshire, and have received it from other parts of England. Mr. Blackwall has unwittingly made a mistake in his "Spid. Great Brit. and Irel.," p. 191, where he states that I had found this species "in uninhabited rooms."

#### THERIDION SIMILE.

THERIDION SIMILE, *C. L. Koch, Blackw.*, Spid. Great Brit. and Irel., p. 187, pl. xiv., fig. 119.

This is a smaller spider than either of the four last, the male measuring rather less than 1-12th of an inch in length.

The abdomen of the female is more than usually globular in form; its colour is brownish, mixed with white, and with a whitish, dentated band, bordered outside with dark-brown, along the centre of the upper side; this band gets narrower towards its hinder extremity, but has a conspicuous, triangular enlargement at its fore extremity, often of a whiter colour, and so more conspicuous than the rest; the colour of the cephalo-thorax is reddish-brown, darkest on the lateral margins and along the middle. The male is like the female, but generally smaller and darker coloured. It is very abundant in some seasons at Bloxworth, and in some other localities, among the heather, and on furze bushes, whence, when they are in bloom, numbers of this species may be obtained by beating the bushes into an umbrella placed underneath. I have also found it among underwood.

I have met with it in Hampshire and received it from Scotland.

#### THERIDION RUFOLINEATUM.

THERIDION RUFOLINEATUM, *Luc.*, Explor. en Algérie, Arachn., p. 260, pl. 16, fig. 10.

„ SPIRIFER, *Cambr.*, Zoologist 1863, p. 8574, and Proc. Zool. Soc. 1872, p. 280.

Length of the male 1-9th of an inch, and of the female 1-7th. This is a rather larger spider than either of the foregoing; it has a broad, central longitudinal, and narrow, lateral marginal, reddish-brown bands on the cephalo-thorax; the intermediate spaces being of a dull yellowish hue. The abdomen has, on the upper side, a broad, deep, black-brown, and sometimes reddish, roughly dentated, and rather tapering, longitudinal, central band, bordered laterally with a whitish line; and on each side of the central band is a well defined, broad, whitish, or yellowish one, commonly mottled with rusty red; the sides are dark black-brown mottled with dull yellow-brown; this latter colour often forming two or more parallel, and slightly oblique lines. The under side is black; the sternum yellow-brown with a dusky black margin. The legs are brownish-yellow, annulated with

dark red-brown at the extremities of the joints. The digital joint of the male palpus is of a short, round-oval form, constricted at its extremity; the palpal organs are rather simple, but surrounded by the numerous coils of a very long, slender—almost hair-like—black spine, and covered with a row of long bristles issuing from the margin of the digital joint.

I have found this spider on furze bushes on Bloxworth Heath, and on the lower boughs of oak trees in Morden Park, in the month of June. The species appears to have a very wide range, being found in the South of France, and Algeria; I have also received it from Spain and Portugal, and have myself met with it in Egypt, Palestine, and Italy.

I first observed it, in England, on furze bushes on the Hursley Downs near Winchester.

#### THERIDION PULCHELLUM.

**THERIDION PULCHELLUM**, *Walek, Blackw.*, Spid. Great Brit. and Irel.

Length of the male 1-9th of an inch, and that of the female 1-8th.

This very brightly coloured, and pretty spider is allied to the foregoing, and resembles it a good deal in the character of its markings; but it is easily distinguished by its brighter colours, as well as by various structural features. It is not uncommon on rosebushes, and other plants and shrubs in gardens, as well as on the lower branches of trees and underwood. It has a broad, blackish, central longitudinal band on the cephalo-thorax, whose ground colour is yellow-brown. The legs are long, of a yellowish-brown hue, annulated with red-brown. The abdomen has a longitudinal central, bluntly dentate, or sinuous, dark red-brown band, bordered (most conspicuously in front) with yellow; the sides are light reddish-brown, and the under part is yellowish with a broad red-brown band along the middle. The digital joint of the male palpus is rather elongate-oval, and the palpal organs have a prominent process, thus differing remarkably

from those of *Theridion rufolineatum*. The egg cocoon is round, white, and may be often found secured by silken lines to the under side of a leaf, where it is watchfully tended upon by the female parent spider.

*Theridion pulchellum* is found in many localities, both in Dorsetshire and throughout the South of England, as well as in North Wales.

#### Theridion BIMACULATUM.

ARANEA BIMACULATA, *Linn.*, Syst. Nat. Ed. 12, T. 2, p. 1033.

Theridion CAROLINUM, *Walck, Blackw.*, Spid. Great Brit. and Irel., p. 192, pl. xiv, fig. 123.

The length of the male is 1-12th of an inch, and that of the female 1-10th.

The sexes of this spider differ exceedingly in form and colours. The female may be readily distinguished by a broad, central, tapering, longitudinal, well defined, yellow (or yellowish-white) band on the upper side of its very globular abdomen, the ground colour of which is a bright brownish-red. The abdomen of the male is far less round in form, being somewhat cylindrical, and often constricted across the middle; it is of a dark brownish-red colour, with the two obscure yellowish spots, near each other in a transverse line, on the fore-part of the upper side. The palpi are long, and are projected straightforwards as the spider runs about. The digital joint and palpal organs are, comparatively, of enormous size, and being held out in front of the spider as it runs along, give it a very singular appearance. The female carries her little round white cocoon, full of eggs, suspended beneath her by silken lines, and shows great concern if it be taken away from her, quickly getting possession of it again if she be able. *Theridion bimaculatum* is among our rarer Dorsetshire spiders; but I have found it, not unfrequently, at Bloxworth among weeds and rank herbage in hedges, and also among heather, as well as among strawberry plants while gathering

strawberries in my garden in June and July, by which time the female has generally deposited her eggs. It has also occurred at Glanvilles Wootton, and is at times very abundant on the sand hills near Southport, in Lancashire.

#### THERIDION PALLENS.

THERIDION PALLENS, *Blackw.*, Spid., Great Brit. and Irel., p. 184, pl. xiv., fig. 125.

Adult male length 1-14th or 1-15th of an inch, the female being rather larger.

This very minute, but common, spider is found in early summer on low plants, shrubs, bushes, and on the lower boughs of large oak trees.

The general colour is pale yellow, blotched with white, and with some dark, blackish markings. The male has a broad, central longitudinal, blackish band on the cephalo-thorax, and the fore-part (sometimes the whole) of the abdomen is black, or more or less suffused with it. The abdomen of the female is nearly globular; it is often without any dark markings, and is seldom so darkly, or so distinctly, marked as that of the male; when present, the markings are sometimes so arranged as to leave a large, whitish-yellow cross occupying the whole of the upper side. The egg cocoon is perfectly white, of a short pear shape, with several subconical prominences towards its larger end, giving it a very distinct and peculiar character; it is fastened by silken lines to the under side of a leaf, where it may be found after mid-summer, and very often (until the young are hatched) with the parent spider in close attendance. I find this pretty little cocoon frequently under the leaves of laurels in my shrubbery, and the adult males are often found running in sunshine on the upper bar of the iron railings fencing the lawn.

*Theridion pallens* occurs throughout the South and Midland Counties of England, as well as in Scotland and Wales, and is probably generally distributed.

GENUS NESTICUS, *Thor.* LINYPHIA, *Blackw.* in part.

The very long, slender, hairy legs, and straight maxillæ, clearly separate this genus from *Theridion*; while the absence of spines on the legs, and the length of the legs of the fourth pair, being greater than that of the second, distinguish it from the genus *Linyphia*.

One species only is as yet known in Britain, and that one is found in Dorsetshire, as well as in many other parts of England. Legs 1.4.2.3.

#### NESTICUS CELLULANUS.

ARANEUS CELLULANUS, *Clerck*, Sv. Spindl., p. 62, pl. 4, Tab. 12.

LINYPHIA CRYPTICOLENS, *Blackw.* Spid. Great Brit. and Irel. p. 224, pl. xvi., fig. 148.

Length of the male about 1-7th, and of the female 1-6th of an inch.

This is a spider seldom found excepting in cellars, dark, damp buildings, unused drains and sewers, and in natural caverns in the earth. The whole spider is of a dull yellowish, whitey-brown hue, with a somewhat semi-diaphanous appearance when alive. The cephalo-thorax is of a pale, yellowish-brown colour, with a distinct, blackish margin, and a longitudinal, central, similarly coloured band, strangulated, or constricted, near the middle. The abdomen is of a fainter colour than the cephalo-thorax, very convex on the upper side, where it is marked with some dusky black lines and spots, forming, chiefly, two, parallel, rows along the middle; the posterior markings often form a longitudinal series of angular bars. The digital joint of the male palpus has, at its base, an enormously developed, curved process, of an irregular, and somewhat concave form; the palpal organs are also greatly developed, and complex, with corneous processes, and spines.

Though probably this spider would be found, by searching, in many other localities in this county, I have as yet only met it at Bloxworth Rectory, and at Glanvilles Wootton. It must

not be confounded with another spider, inhabiting also dark buildings and cellars—*Pholcus phalangioides*. Fuessl. (supra p. 77). The far longer and slenderer legs, and the cylindrical abdomen of the latter spider, will distinguish it at a glance from the present species.

GENUS PHYLLONETHIS, *Thor*. THERIDION, *Blackw.*  
in part.

This genus, included by Mr. Blackwall in *Theridion*, is separated from it by the more slender legs, a difference in the relative position of the eyes of the posterior row, and in the form of the maxillæ, which are broader towards their extremities. In the males there is also a greater, though in different individuals not always an equal development of the falces, which are widely divergent, and armed with a strong tooth towards their base on the inner side. Two British species only are at present known, both of them being found in Dorsetshire.

PHYLLONETHIS LINEATA.

ARANEUS LINEATUS, *Clerck*, Sv. Spindl. p. 60, pl. 3, Tab. 10.

THERIDION LINEATUM, *Blackw.*, Spid. Great Brit. and Irel., p. 176, pl. xiii, fig. 111.

The length of the male is 1·7th, and that of the female 1·5th, of an inch.

This is one of our commonest, as well as prettiest, spiders, occurring on various plants, bushes, and low trees; its general colouring is pale yellow, or whitish. The cephalo-thorax is of a straw-yellow colour, with a dusky, longitudinal, central, and black marginal lines; two longitudinal converging rows of black spots, sometimes dilated into irregular bands, occupy the upper side of the abdomen, which is thickly covered with cretaceous yellowish, or whitish spots; a row of alternate black and white spots encircles the hinder extremity, near the base of the spinners, in the form of a horse-shoe, whose open side is in front; and a longitudinal blackish band runs along the middle

of the under side. The form of the abdomen of the female is sub-globular, that of the male being oval; and the legs are long, very slender, and like the cephalo-thorax in colour. There is much variation in the markings of the upper side of the abdomen; in some females it is of an almost uniform whitish hue, with a few indistinct, veiny, dusky lines; some are as first above described; others, both male and female, have two longitudinal, bright carmine bands which unite at each extremity; and in others, almost the whole of the upper side is carmine; but in all cases the horse-shoe ring of black and white spots and the sub-abdominal black band are present. The sternum is yellow, with a black marginal, and longitudinal central lines.

The snare of this spider consists of numerous lines crossing and re-crossing each other among the small branches and leaves; the egg cocoon is secured by silken lines under the leaves, of which several are usually drawn together, and form a kind of tent for the protection of the eggs and young; the latter living beneath its shelter for some time after they are hatched.

It appears to be equally abundant throughout Great Britain, and, indeed, Europe generally.

#### PHYLLONETHIS INSTABILIS.

*THERIDION INSTABILE*, *Cambr.*, Trans. Linn. Soc. xxvii, p. 416, pl. 55, No. 14.

Length of the male 1-12th of an inch; of the female 1-10th.

Very much smaller than the last species, though bearing some general resemblance to it in colours and form. It may be distinguished among other characters by three, broken, black lines and markings on the abdomen, in lieu of the distinct black spots in *Phyllonethis lineata*; as well as by the absence, in most cases, of the ring of spots round the spinners; in some examples they are indistinctly apparent. The cephalo-thorax and sternum are immaculate, excepting a broadish, central, longitudinal, tapering, dark band on the former. The males have long and divergent falces very like those of *Phyllonethis lineata*, but some-



what differently armed. As yet this spider has only been found among coarse sedgy grass in a swamp near Bloxworth.

GENUS STEATODA, *Sund.* THERIDION, *Blackw.* in part.

The legs are stronger in this genus than in *Theridion*, and the other foregoing genera, and the eyes are placed on a rather projecting prominence at the fore part of the caput. The surface of the cephalo-thorax and sternum is often of a roughened, punctuose, or granulose nature, and the form of the abdomen is quite different from that of *Theridion*, with which it is united by Mr. Blackwall; in *Steatoda* the abdomen is oval, but instead of being excessively convex and globular above, it is, though considerably convex, rather flattened on the upper surface. Eight species are recorded as British, but four only have been found in Dorsetshire.

#### STEATODA BIFUNCTATA.

ARANEA BIFUNCTATA, *Linn.*, Syst. Nat. Ed. 10 i, p. 620.

THERIDION QUADRIFUNCTATUM, *Blackw.*, Spid. Great Brit. and Irel., p. 177, pl. xiii., fig. 112.

The length of the male is 1-6th, and that of the female 1-4th of an inch.

The cephalo-thorax is prominent in front, of a dark reddish-brown colour, and (together with the sternum) is covered with impressed points, or punctures. The general colour of the abdomen is a somewhat purplish, livid brown; a curved, marginal, whitish line runs round the fore extremity of its upper side; and down the middle there is a longitudinal, white stripe, consisting generally of a row, more or less connected, of spots and markings of different sizes, and crossed at its hinder extremity, some way above the spinners, by another transverse white stripe. All these white markings, however, vary considerably in form and extent, in different examples. The upper side of the abdomen has its central portion often much paler than the rest; and has also some deep red-brown impressed spots, or punctures, arranged in

two longitudinal diverging lines; the anterior pair of these spots being much more conspicuous than the rest. Beneath the fore extremity of the abdomen is a sort of socket, serrated or denticulated on its upper edge, and into this the hinder extremity of the cephalo-thorax fits, like that of *Asagena phalerata*. The under side is of a pale hue, margined with white, and marked with a central, longitudinal, deep red-brown band, divided in front by a white patch.

The legs are moderately long and strong; their colour is yellow-brown, with, at times, darker annulations.

The palpi of the male are long, the digital joint large, and the palpal organs prominent and highly developed.

The sexes are very similar in colours and markings.

This is often a very abundant spider in lofts, outhouses, stables, and in the windows of neglected rooms; it is also found under large stones and logs of wood. Examples may be met with all the year round, but its usual time of maturity is in the early summer months. It appears to be generally distributed throughout England.

#### STEATODA STICTA.

*THERIDION STICTUM*, *Cambr.*, Ann. and Mag. N. H., 3 Ser. vii., p. 432.

„ „ *Blackw.*, Spid. Great Brit. and Irel., p. 196, pl. xiv., fig. 126.

The length of the male is  $1\frac{1}{2}$  lines; the female is rather larger.

This a much smaller and brighter coloured spider than the preceding, which it resembles very nearly in its general form, and somewhat also in the character of its markings. The male is much deeper and richer in colours than the female.

The cephalo-thorax and sternum (of the male especially) are strongly marked with granulations and punctures; and are of a bright, mahogany red-brown colour, deepening almost into black on the caput. The legs are of a bright orange-yellow, tinged

with red. The palpi of the male are long, strong, and similar to the legs in colour; the digital joints (together with the palpal organs) form a conspicuous object, as the spider runs with the palpi stretched in front at full length. The cubital joint is curved prominent above, and strongly clavate at its extremity; the radial joint is shorter, spreads out at its extremity, and is fringed, near the fore margin, with longish hairs; the end of the digital joint is rather drawn out, and has a conspicuous, prominent projection on its inner side; the palpal organs are prominent and complex.

The abdomen is yellow-brown, with the sides, and a patch on each side of the medial line of the upper part of the fore extremity, black; the upper part is also divided longitudinally by a whitish stripe; a similar stripe encircles the anterior extremity, and four deep red-brown impressed spots form a quadrangular figure near the middle. Beneath the fore extremity is a similar socket to that noticed in the foregoing species (*Steatoda bipunctata*).

This exceedingly rare, as well as distinct and pretty, spider has been found on several occasions after long searching, among moss and heather on Bloxworth Heath, but hitherto not in any other localities. Among the examples found one only has been a male. A variety of the female occasionally occurs, in which the abdomen is of a uniform and nearly black hue.

#### STEATODA CORACINA.

THERIDION CORACINUM, *C. L. Koch.*, Die Arachn., Bd. viii., p. 84, Taf. 276, fig. 655.

„ „ *Cambr.*, Trans. Linn Soc. xxvii., p. 422.

The length of the male is 1 line.

A single example only of this spider has, as yet, been recorded in Britain; this specimen I found among heather at Morden Park, near Bloxworth, in May, 1863. Its uniform, sooty-black colour, save the extremities of the legs, which are white, will render it easily to be distinguished when met with. The palpi are long; the cubital and radial joints very short, the

former protuberant above; the digital joint is large, obtuse-oval, and, with the palpal organs, which are simple, very club-like.

#### STEATODA GUTTATA.

**THERIDION GUTTATUM**, *Wider., Blackw.*, Spid. Great Brit. and Irel., p. 200, pl. xiv., fig. 131.

This is a still smaller spider than *Steatoda sticta*, but about the same size as *S. coracina*, the female measuring no more than 1 line in length.

In its general form, and the long palpi with their large digital joints and palpal organs, it is closely allied to both *S. sticta* and *S. bipunctata*, but it cannot be mistaken for either of them for a moment. Not only is it much smaller, but its abdomen is of a uniform, glossy, maroon-brown colour, marked on the upper side with a few bright, yellowish-white, spots disposed in three longitudinal lines, the central line being the longest. The cephalo-thorax and sternum are conspicuously punctuose.

I have found this very pretty little spider, not uncommonly among heather on Bloxworth Heath; and (more rarely) under stones near Pennsylvania Castle, Portland. It is adult in May and June, and in running the male holds its palpi stretched forwards at full length, like *S. sticta*. The hinder extremity of the cephalo-thorax fits into a kind of socket beneath the fore extremity of the abdomen, but the upper edge of the socket does not appear to be either dentated, or serrate.

**GENUS EURYOPIS MENGE.** **THERIDION**, *Blackw.* (in part).

The genus *Euryopsis* forms a group of small spiders separated from *Theridion* and *Steatoda* on several accounts. They are shorter, and proportionately stronger, in the legs, broader at the forepart of the caput, which is, however, very short, but also prominent in the ocular region; and the abdomen, although very short-

oval, and often globularly convex above, as well as slightly pointed at the spinners, is yet not so exceedingly convex, nor as elevated at the fore part of the upper side, as in *Theridion*. The palpi of the male are also much shorter than in *Steatoda*. The relative length of the legs is 1.4.2.3., and they are devoid of spines. Four species have been recorded as British, two only, as yet, having occurred in Dorsetshire.

#### EURYOPIS INORNATA.

*THERIDION INORNATUM*, *Cambr.*, Ann. and Mag., N. H., June, 1861.

„ „ *Blackw.*, Spid. Great Brit. and Irel., p. 196,  
pl. xiv., fig. 127.

The length of the female is one line, the male being rather smaller.

This is a plainly, but distinctly, coloured spider; its cephalo-thorax and legs are of a reddish-yellow colour, the tibiae of the first two pairs of legs, as well as the extremities of the tibiae of the fourth pair, blackish. The abdomen is blackish, glossy, and of a roundish-oval form. The digital joints of the palpi of the male, with the palpal organs, form a largeish, round-oval club-like end; and the convex sides of these joints are directed towards each other. I have found this species, among heather, on Bloxworth Heath, and also under stones in the Isle of Portland. It is adult in the months of May and June.

#### EURYOPIS FLAVOMACULATA.

*MICRYPHANTES FLAVOMACULATUS*, *C. L. Koch*, Die Arachn. iii.,  
p. 67, Taf. 95, fig. 220.

*THERIDION FLAVOMACULATUM*, *Blackw.*, Spid. Great Brit. and  
Irel. p. 201, pl. xiv., fig. 132.

The length of the male is 1-7th of an inch, and the female rather larger.

The cephalo-thorax and legs are of a reddish yellow-brown colour, the legs being rather the lightest in hue. The fore-

central pair of eyes are further from each other than the hind centrals, and form a longer line. The abdomen is oval, pointed behind, and projects well over the base of the cephalo-thorax; it is of a dark, yellowish brown, or blackish colour, with some indistinct, pale brownish yellow markings, along the middle of the fore part; three large, rather oblique, dull yellowish patches form a longitudinal line on each side of the upper part, and a series of four or five, similarly coloured, smaller, opposed, rather oblique spots, along the middle of the hinder half, represent the ordinary angular bars; in front of them being four, brightish, red-brown spots (in the form of a quadrangle), edged with yellowish; these pale markings have a somewhat metallic lustre, from a few pale golden, scale-like specks upon them.

The palpi of the male are short; the cubital joint is roundish, and tumid in front; the radial joint very short, dilated in front, with a pointed apophysis on the outer side, directed backwards, its point almost in contact with the cubital joint; the digital joint is large, the palpal organs complex, prominent, with two rather conspicuous processes at their extremity.

This is an exceedingly rare spider. I have met with it (an adult male) on one occasion only in Dorsetshire—crossing a foot-path in Berewood, near Bloxworth, in the month of June, several years ago. It is equally rare in other parts of Great Britain.

GENUS ASAGENA, *Sund.* THERIDION, *Blackw.* in part

In this genus the legs are rather longer than those of *Euryopis*, and also stronger. The cephalo-thorax and sternum are covered with strong granulations; the former is of a somewhat different, and more depressed form, than that of some other genera of the *Theridiides*; and its lateral margins are furnished with small denticulations. The abdomen is broad-oval, not very convex above, rounded behind, rather hollowed out underneath in front, where there is also a roundish socket, margined above with small denticulations; into this socket the hinder extremity of the cephalo-thorax fits, much like that of several species of

*Steatoda*. A kind of squeaking, or stridulating noise, is said to be made, by the rubbing of the cephalo-thorax against the horny edges of the abdominal socket. I have never, however, heard it myself.

One species only is as yet known in Great Britain, and occurs occasionally in Dorsetshire.

#### ASAGENA PHALERATA.

PHALANGIUM PHALERATUM, *Panzer.*, Faun. Ins. Germ., 78, 21.

THERIDION SIGNATUM, *Blackw.*, Spid. Great Brit. and Irel. p. 205, pl. xiv., fig 135.

ASAGENA SERRATIPES, *C. L. Koch*, Die Arachn. vi., p. 98, Taf. 204, fig. 502, 503.

The length of the male is 1-5th of an inch, and the female is somewhat larger.

This is so conspicuously marked a spider that it cannot well be mistaken for any other known British species. The cephalo-thorax is of a deep blackish red-brown colour, and, besides the granulose surface, it has some short spines on the lateral margins. The legs are strong, red-brown, with some portions (chiefly the fore-half of the tibiæ, and the fore extremity of the femora) dark brown, or nearly black. The under sides of the femora and tibiæ, of those of the first and second pairs, are furnished with short spine-like denticulations.

The abdomen is brownish-black; its fore-extremity on the upper side, has a curved, sometimes bisected, golden yellow, transverse stripe, directly behind the middle of which is a small, somewhat linear spot; another short, curved, transverse, rather oblique spot of a similar colour occurs, on each side, about the middle; and another, elongated, central spot at the hinder extremity. Some little variety exists, in different examples, in the number, size, and form, of these yellow markings. The palpi are short, and of a dark red-brown colour; the radial joint is large and dilated in front; the digital joint very large, and the palpal organs complex with strong, prominent processes near their extremity.

Found, though very rarely, among heather, and under stones

at Bloxworth. It has also been met with occasionally in a few other localities in England, Wales, and Scotland.

# GEN NOV., ROBERTUS.

*Cephalo-thorax* oval, considerably flattened above, and the normal indentations not strongly marked.

*Eyes* of moderate size, and not very unequal; they are placed in two very nearly straight, parallel rows almost close together; the convexity of their very slight curves being directed forwards; those of each lateral pair are seated on a tubercle, but are not quite contiguous to each other; and the four centrals form a square. The ocular area thus forms a transverse, elongate-oblong figure, whose transverse length is more than double its breadth, and occupies pretty nearly the whole width of the fore part of the caput. The height of the clypeus is equal to half that of the facial space.

*Legs* moderately long, tolerably strong, 1.4.2.3., fairly furnished with strongish hairs and bristles, and terminating with three claws, the inferior one very slender; metatarsi as long, or longer, than the tarsi.

*Palpi* terminate with a black, slightly curved, but apparently not denticulated claw.

*Falces* long, powerful, perpendicular.

*Maxilla* rather long, straight, strong, and broad; with parallel sides, truncated obliquely at their extremity, which is rounded on the outer side, and strongly inclined to the labium.

*Labium* short, subtriangular, rounded at the apex.

*Abdomen* rather flattish, oval, well rounded behind, clothed thinly with longish, coarse, bristly, black hairs, and projects moderately over the base of the cephalo-thorax; the four outer spinners short, but of equal length.

# ROBERTUS ASTUTUS, sp. nov.

Adult female, length 1 line.

The whole of this spider is of a pale, dull, straw colour; the



falces, maxillæ, labium, tarsi and metatarsi of the legs tinged with yellow-brown. Probably the example described (which is the only one I have yet found), had not long obtained maturity, in which case the colours would perhaps have become darker in a short time.

The profile line of the cephalo-thorax shows no difference in the even run, of the very slightly curved line of the thorax and caput, to the beginning of the hinder slope.

The four central eyes form a small square, and are all, as nearly as possible, equally separated from each other, the intervals being, just about, equal to a diameter of one of those of the posterior pair; those of each lateral pair are placed obliquely, and are nearly, but not quite, contiguous to each other, being also the largest of the eight; the interval between the hind-centrals is distinctly less than that between each of them, and the hind-lateral eye next to it.

This spider is unmistakably allied to some species of *Neriene*, but differs considerably from them. Among the chief differences are the position of the eyes, of which the posterior row has its convexity directed forwards; the greater strength of the legs; and the tarsi, equalling, if not exceeding, the metatarsi in length. On these, and other, accounts it is necessary to establish a new genus for it.

A single example was found under an old clod of turf near Woolbarrow, on Bloxworth Heath, in September, 1878.

#### GENUS NERIENE, Bl. in part.

This genus and the next (*Walckenaëra*, Bl.) comprise a vast assemblage of minute spiders, mostly black, or dark-brown, (varying to yellowish-brown in some species) with yellow-brown, reddish-brown, or orange-coloured legs. Among them are some of the smallest known spiders; the largest does not exceed 1-6th of an inch in length; while the smallest is no more than 1-25th. There appears to be no sufficient grounds for merely separating the genera *Neriene* and *Walckenaëra*, of which this group is made up; while yet it is impossible to combine them, satisfactorily, in

one group, as is now done by most Arachnologists, under the generic name *Erigone*. The time approaches when a revision of the whole group will be a necessity. I have myself been, for a long time, collecting notes for such a revision, which is delayed, chiefly, by the difficulty of obtaining the females of very many of the numerous species. Here, therefore, it must suffice to catalogue them within the generic limits adopted by Mr. Blackwall, some years ago, in his work on British Spiders.

With regard to the generic characters of *Neriene* it is enough, here, to mention that the eyes are in two curved rows, forming a transverse, oval, or oblong-oval figure; or in four pairs, of which the two lateral, and the fore-central pairs have their eyes, respectively, contiguous (or very nearly so) to each other. The legs are generally slender, of moderate length, relatively 1.4.2.3., or 4.1.2.3., furnished, almost always, with hairs and slender bristles only. In a few instances some strong bristles or fine spines are present, and in one instance there are some decided spines on the legs of the first two pairs. The legs of the male sometimes differ, in their relative length, from those of the female. The maxillæ are short or of moderate length, tolerably strong, in one group greatly enlarged where the palpi are inserted, and, generally, strongly inclined towards the labium, which is short and of a somewhat semi-circular form. Some few male spiders, of this genus, have eminences, or protuberances on the caput; but in no case are the eyes placed upon, or around the eminence; others have the caput generally raised, in a more or less rounded, or convex form, while others have merely the ocular area a little projecting; and, excepting in a few cases, there is, in the females, but little difference, when looked at sideways, in the level of the thorax and caput. In fact, one of the great obstacles in the way of a satisfactory subdivision of these small spiders into genera, is the *great similarity* of the females to each other; while the males, generally, differ so considerably, in several structural features, as to make it quite easy, not only to distinguish the species, but to indicate several good generic groups among them.

The spiders of this group are found on low plants, bushes, and

branches of low trees, among grass, moss, and heather; also under stones, and loose bark. When young they are among the most frequent of gossamer spiders, and may often be taken while floating in the air upon their silken lines. The snare of these spiders is a thin horizontal sheet of web stretched among the leaves and shoots of plants and trees, or among the blades and stems of grass, as well as over small cavities in the surface of the ground. Over, under, and around this sheet of web are some other lines crossing and recrossing in various directions. These lines no doubt serves to entangle small insects and precipitate them upon the web, where they are quickly seized by the spider, who lies in wait, either beneath in an inverted position, or else close by. Up to the present time *eighty-three* species of *Neriene* have been recorded in Britain, and of these *fifty* have been found in Dorsetshire.

The remarks made upon each of the following species must be taken to apply to the males only, excepting where otherwise expressed. As a general rule the difference between the males and females of these little spiders consists of the larger abdomen of the latter, and the absence of any elevation or eminence that may exist on the caput, or thorax, or any special development of the falces of the male; the colours in the two sexes are, almost always, nearly alike.

#### NERIENE ATRA.

NERIENE ATRA, *Blackw.*, Lond. and Edinbro., Phil. Mag., 3 Ser., iii., p. 195.

„ LONGIPALPIS, *Blackw.*, Spid. Great Brit. and Irel., p. 274, pl. xix., fig. 188.

The length of the male is about 1-10th of an inch; that of the female a little more.

This, and the next two, are among the most easily identified species of the group. The caput is considerably raised, the falces are protuberant near their base, and are armed, in front, with

strongish prominent denticulations; the cephalo-thorax also has a marginal row of similar denticulations. The palpi (of the male) are long and slender, the third (or cubital) joint has a strong and nearly perpendicular, pointed spur beneath its fore extremity; and the second (or radial) joint is broad, obtuse, and rather rounded at the, somewhat produced, fore extremity of the upper side. The colour of the cephalo-thorax is a rich glossy, brown-black; the legs reddish-brown, and the abdomen black; the humeral (or longest) joint of the palpus (in all the three species) is armed with denticulations; and, in the present one, there is frequently a longitudinal, central row of very small, sharp denticulations on the caput.

This is an abundant spider in most parts of England; and especially in early summer and autumn, when, after a frosty morning, and gossamer lines are numerous over the grass fields, numbers of both sexes may be found running on the silken threads.

• NERIE NE LONGIPALPIS.

LYNYPHIA LONGIPALPIS, *Sundevall*, Sv., Spindl., Beskr., in Vet. Akad. Handl., f. 1829, p. 212; *ibid* 1832, p. 259 in part.

NERIE NE LONGIPALPIS, *Cambr.*, Trans. Linn. Soc. xviii., p. 447, pl. xxxiv., No. 23 and 24.

This spider is a little larger than the foregoing, but resembles it very closely in form, structure and colour. It may, however, be recognised, without much difficulty, by the last joint but one of the male palpus, which, instead of having the produced portion, at the fore extremity of the upper side, broad and obtuse, has that part rather more produced, and somewhat pointed. It is found in the same localities and at the same periods as *Nerie ne atra*, but is a much rarer spider, especially in Dorsetshire, where I have only met with it on two or three occasions,

## NERIENE DENTIPALPIS.

**THERIDION DENTIPALPE**, *Wider*, Mus. Senck. 1, p. 248, taf. 17,  
fig. 1.

**NERIENE DENTIPALPIS**, *Cambr.*, Zoologist 1863, p. 8598, and  
Trans. Linn. Soc. xxviii, p. 448, pl.  
xxxiv., No. 21.

This spider is of the same size as *Neriene atra* and exceedingly like that, and the last species also; but it may be distinguished readily, from both, by a small, but distinct, tooth-like spine behind the radial joint of the male palpus; the same joint is also very prominent at the fore extremity on its outer side, and the produced portion of the upper side differs in form from that of both the other species.

It is found at the same periods and in the same localities as *N. atra*, and is equally abundant.

## NERIENE GRAMINICOLA.

**NERIENE GRAMINICOLA**, *Blackw.*, Spid. Great Brit. and Irel., p.  
272, pl. xix., fig. 186.

**LINYPHIA GRAMINICOLA**, *Sundevall*, Sv., Spindl. Beskr. in Vet.  
Akad. Handl., f. 1829, p. 213.

The male measures 1-10th of an inch in length. The colour of the cephalo-thorax (which has the ocular area a little prominent) is yellow-brown, with a blackish marginal line, and some converging blackish lines on the thoracic portion; the legs and palpi are reddish yellow-brown, and the abdomen blackish. The cubital joint of the male palpus has a short, pointed, spur-like prominence beneath the fore extremity, but it is not nearly so long as that in the three foregoing species. The radial joint is

stronger than the cubital, and has three projections at its fore extremity; two, large and obtuse, on the upper side, project over the base of the digital joint, while the third is small, pointed, and situated underneath; each of the falces is armed with a strong prominent tooth in front towards the fore extremity on the inner side. The female (and now and then the male) has sometimes a longitudinal, central, ill-defined, pale band on the upper side of the abdomen. The sexes are, in most other respects, similar to each other. This is a tolerably common spider at Bloxworth on furze bushes when in full bloom, and on the branches of trees, as well as among underwood. It is also found in many other parts of England, and in Scotland.

#### NERIENE NIGRA.

NERIENE NIGRA, *Blackw.*, Spid. Great Brit. and Irel., p. 271, pl. xviii., fig. 185.

The length of this spider is rather more than one line. It is almost completely black, or black with a brownish tinge; the cephalo-thorax is glossy, while the abdomen is of a dull hue, and the legs are reddish-brown. The caput is rather elevated, and prominent in the ocular region. The palpi are similar in colour to the legs, and (in the male) the cubital joint is long, and enlarges gradually to its fore extremity, while the radial joint has its upper extremity produced into a long, narrow process, ending in a bent point, the point directed outwards. The digital joint is rather small, and the palpal organs have a kind of corkscrew-shaped, spiny process at their extremity.

I have found this spider tolerably plentiful on iron railings at Bloxworth in the months of April and May; and it is one of those to which, in its young state, much of the gossamer over our fields in autumn is due. It is also found in other parts of England, as well as in Scotland.

## NERIENE LONGIMANA.

ERIGONE LONGIMANA, *C. L. Koch*, Die Arachn. viii., p. 93, Taf. 278, fig. 661, 662.

NERIENE VAGANS, *Blackw.*, Spid. Great Brit. and Irel. p. 257, pl. xviii., fig. 173.

The male of this spider is rather less than 1 line in length, the female being slightly larger.

The caput is not elevated above the thoracic level, nor is it prominent before; the whole cephalo-thorax is of a more or less dark, yellowish-brown colour; the legs reddish brown, and the abdomen nearly black.

It may be easily recognised by the great length of its slender palpi, of which the digital joint is very small, while the radial has its fore extremity, in front, produced into a long, curved process, the point of which is enlarged and roundish.

As yet we must reckon this little spider among our rarer species, inasmuch as I have only met with it in Dorsetshire (at Bloxworth and in the neighbourhood) three or four times. It appears to be far more frequent in Wales and Scotland; and is adult during the summer months. It may be distinguished from some other minute, and allied, spiders, with long palpi, by the browner hue of the cephalo-thorax, and the absence of any spur on the under side of the cubital joint, as well as by the more depressed caput. The sexes resemble each other in colour and general characteristics.

## NERIENE RUFIPES.

LINYPHIA RUFIPES, *Sundevall.*, Sv. Spindl. Beskr. in Vet-Akad. Handl., f. 1829, p. 215; 1832, p. 259.

NERIENE MUNDA, *Blackw.*, Spid. Great Brit. and Irel., p. 265, pl. xviii., fig. 180.

The length of the male of this spider is 1-8th of an inch; the female being rather larger.

The colour of the cephalo-thorax is reddish-brown ; the caput, of the male especially, suffused with a deeper hue; that of the legs is red, and the abdomen brownish-black with sometimes a broadish, pale brownish-yellow, longitudinal, central band on the upper side ; this band is frequent in the female, but less often found in the male. The caput is not elevated. The palpi of the male are remarkable for the large size, and tumid form of the cubital joint; the radial joint has its outer extremity produced into a large process, and there is another, of a less size, at the inner extremity, with a third (the smallest) beneath. The falcies of the male have a tooth-like process towards their fore extremity, rather on the inner side.

This not an uncommon spider among underwood, and on the lower branches of oak trees at Bloxworth in early summer ; and Mr. C. W. Dale has found it, not unfrequently, at Glanvilles Wootton. I have also received it from other localities, both in England and Scotland.

#### NERIENE RUBENS.

NERIENE RUBENS, *Blackw.*, Spid. Great Brit. and Irel., p. 270, pl. xvii., fig. 184.

This spider is of the same size as the last.

The colour of the cephalo-thorax (of which the caput is considerably and abruptly elevated, and prominent) together with that of the legs and palpi is yellowish-red. The abdomen is reddish-brown. The male of this spider may be recognised by the peculiar form of the palpi, as well as by the abruptly elevated caput. The fourth (or humeral) joint of the palpus is very strong, enlarging gradually to its fore extremity, where there is, on the upper side, a strong, spine-like spur, together with a good many, very small, pointed, black, or red-brown spines; the radial joint has its inner extremity produced into a tapering, curved process, with another rather shorter and less pointed, at the end of the outer side.



The female resembles the male in colours and general characteristics.

This spider is found among underwood, and on furze bushes, in the months of May and June, and in autumn, at Bloxworth, and in many other British localities. It should be remarked that the legs of the first two pairs, in the male of this and the next two species, have the under side of the tibiae enlarged, and thickly furnished with hairs, towards the anterior extremity.

#### NERIENE BIFIDA.

NERIENE BIFIDA, *Cambr.*, Zoologist 1863, p. 8587, and Trans. Linn. Soc. xxviii., p. 449, pl. xxxiv., No. 14.

This spider is closely allied to the preceding, resembling it very nearly in size, colours, and structure; but it may be at once distinguished by the form of the fore extremity of the upper part (ocular region) of the caput; this part is divided longitudinally, by a rather deep cleft, into two segments, each of which has four of the eyes upon it. The palpi are exceedingly similar to those of *N. rubens*. A single example of the male, found at Bloxworth on a furze bush, at the end of summer, some years ago, is at present the only recorded example.

#### NERIENE ISABELLINA.

MICEYPHANTES ISABELLINUS, *C. L. Koch*, Die Arachn. viii., p. 109, Taf. 282, fig. 676, 678.

NERIENE RUBELLA, *Blackw.*, Spid. Great Brit. and Irel., p. 281, pl. xix., fig. 194.

Nearly allied to *Neris rubens*, which it resembles closely in general form, structure, and colours. The abdomen is, however, generally of a redder hue, and the caput is not quite so much elevated, nor so prominent; the palpi of the male differ entirely; they are strong, the cubital joint is of inordinate size and tumidity, and has a sharp-pointed process at its fore extremity, near the

outer side, in front. The radial joint is very short, but has its fore extremity produced into a very long, strong, curved, slightly tapering process pointing outwards over the outside of the digital joint; and there is another, very much smaller, curved process on the outer side, directed backwards. The form of these joints will distinguish this spider at once from *Nerione rubens*. The females are difficult to distinguish at first sight, but their respective genital apertures are quite different in form.

This spider is not rare among underwood, in summer and autumn, at Bloxworth; and Mr. C. W. Dale has sent it to me from Glanvilles Wootton. I have also received it from other parts of England, and from Scotland.

#### NERIENE VIGILAX.

NERIENE VIGILAX, *Blackw.*, Spid. Great Brit. and Irel., p. 277, pl. xix., fig. 191.

Length of the male scarcely one line.

The caput of this spider is not elevated. The colour of the cephalo-thorax is dark-brown, that of the legs reddish, and the abdomen black. The fore extremity, on the upper side, of the radial joint of the palpus, has a curved, obtusely pointed process pointing outwards, and the palpal organs have a slender black spine coiled round at their fore extremity, towards the outer side, and covered with a thin membranous substance.

This is a very rare spider, and has been found once or twice only, as yet, in Dorsetshire, running on a roadway in summer time. Mr. Blackwall has met with it, once only, in North Wales.

#### NERIENE HERBIGRADA.

NERIENE HERBIGRADA, *Blackw.*, Spid. Great Brit. and Irel., p. 285, pl. xix., fig. 199.

The length of the male of this spider is less than 1 line, being about 1-15th of an inch; and the female is rather larger. The colour of the cephalo-thorax is brown, that of the legs yellow.

brown; the abdomen is somewhat like the legs in colour, but of a much darker hue. The radial joint of the palpus is larger than the cubital, and has its fore extremity, rather on the inner side, produced into a strongish, obtuse process; the palpal organs have two long, slender, contiguous, curved, black spines connected with them, and extending beyond the extremity of the digital joint. The caput is not elevated, but there is a longitudinal, narrow indentation running backwards, immediately behind each of the lateral pairs of eyes. This indentation is confined to the male. The female does not differ in colours and general characters from the male.

It is not common, but I have met with this spider occasionally, in spring-time, among moss in woods at Bloxworth; and it has been found by Mr. Blackwall in North Wales.

#### NERIENE AFFINIS.

*NERIENE AFFINIS* *Blackw.*, Spid. Great Brit. and Irel., p. 259, pl. xviii., fig. 175.

The long palpi, and very small digital joints, which are roundish and scarcely wider than the next joint, render this rare spider easily distinguishable. It is about 1-7th of an inch long. The colour of the cephalo-thorax is dark reddish-brown, the legs and palpi being of a bright yellowish-red hue. The cubital joint of the palpus has a short, conical, prominent, pointed spur beneath its fore extremity. The falces are strong, prominent at their base in front, divergent at their extremity, and, in the male, with a strong tooth, towards the inner side, near the middle. The caput is not raised above the level of the thoracic region. The abdomen is black. The female resembles the male in general characters and colours.

I have only met with this spider in Dorsetshire on one occasion, at Bloxworth, among moss and grass, in early summer. Two other examples have been recorded in England, one found in Yorkshire, the other in Derbyshire.

## NERIENE DENTATA.

NERIENE DENTATA, *Wider., Blackw.*, Spid. Great Brit. and Irel., p. 258, pl. xviii., fig. 174.

The length of the male of this species is 1-10th of an inch, the female being rather larger. Like those of *Neriene affinis*, the falces of the male have a strong tooth in front, but the two species may be readily distinguished by the caput, which is, in the present spider, more convex behind the eyes, and rather elevated above the thorax, the most elevated part being clothed with numerous strong hairs. The digital joints of the palpi are large, and the palpal organs prominent and complex; the cubital joint has also a small spur beneath its fore extremity. Its colours are generally of a duller hue than those of *N. affinis*. The female is similar in colour to the male, and in both sexes the abdomen frequently has a central, longitudinal pale stripe.

I have found this spider at Bloxworth and in several other parts of Dorsetshire (but not in abundance), among moss and water weeds in marshy places, in the months of May and June. It has also occurred in Scotland.

## NERIENE AGRESTIS.

NERIENE AGRESTIS, *Blackw.*, Spid. Great Brit. and Irel., p. 276, pl. xix., fig. 190.

The male of this little spider is no more, and often less, than 1-12th of an inch in length. The colour of the cephalo-thorax is yellow-brown, the legs and palpi pale reddish-yellow, and the abdomen dark blackish-brown. The upper side of the caput is somewhat convexly raised above the rest. The palpi are moderately long, slender, and the radial joint has a very small projection at the extremity on the upper side, armed with two sharp points. The digital joint and palpal organs are also small. The female is larger than the male, and often has a pale, longitudinal stripe down the middle of the upper side of the abdomen, very much resembling, in this respect, the female of *Neriene munda*.

This spider is not rare in spring and early summer, running on the iron railings on the lawn at Bloxworth Rectory. I have also found it in pastures, among grass and herbage, in several other localities in this county. It occurs in numerous other localities in England, and I have also received it from Ireland and Scotland.

#### NERIENE RETUSA.

*ERIGONE RETUSA*, *Westr.*, *Aran. Suec.*, p. 253.

*NERIENE ELEVATA*, *Combr.*, *Zoologist* 1862, p. 7966.

The size of this spider is about the same as that of *Neriene agrestis*, and its colours are also similar; but the male may be easily distinguished by the hinder part of the caput being a little elevated, and then suddenly dropping to the normal level by an abrupt slope just behind the eyes; forming there (if looked at sideways) a kind of notch. The radial joints of the palpi are also quite different, and of a rather peculiar form; the cubital joint is longer than the radial, and slightly clavate; the radial is prominent at its extremity in front, the prominence ending in a small, pointed apophysis, directed outwards; and beneath the prominence is a small, black, sharp pointed spine, slightly curved, with its point directed rather backwards and outwards.

The female resembles the male in colours.

This is, apparently, everywhere, a rare spider. In Dorsetshire I have only met with it on two or three occasions, and then in company with *Neriene agrestis*. I have found it also in Lancashire, and have received it from both Scotland and Ireland.

#### NERIENE APICATA.

*NERIENE APICATA*, *Blackw.*, *Spid. Great Brit. and Irel.*, p. 269, pl. xviii., fig. 183.

This is another little spider closely allied to the last, and similar to it in size, colour, and general appearance; but it may

~~at once~~ be recognized by a small, perpendicular, obtusely-pointed, somewhat subconical eminence on the caput, behind the eyes, surmounted by a crest of hairs. It is a rare spider everywhere. I have, twice or three times only, found it among grass and herbage at Bloxworth in summer time, and it has occurred in Wales and Scotland. The female is probably very like that of the foregoing species, though it has not yet been certainly identified.

#### NERIENE GIBBOSA.

NERIENE GIBBOSA, *Blackw.*, Spid. Great Brit. and Irel., p. 278.

This spider is a very little larger than the last, but resembles it very much in its general colouring. It may however be easily distinguished by the form of the cephalo-thorax, which has a very large, obtusely rounded protuberance, on the middle of the upper side, at the occiput; and immediately in front of this is a deep hollow, or depression, furnished with strong bristly hairs, whose points appear to converge over it. The palpi of the male bear considerable resemblance to those of *Neriono apicata*, but the radial apophyses are rather stronger.

I have found specimens of this very distinct spider, rather abundantly on one occasion, among moss in a swamp near Chamberlains Bridge, between Bere and Wool, in the month of June. It has been met with also in North Wales and Scotland. The female is rather larger than the male, and has not the protuberance on the cephalo-thorax.

#### NERIENE TUBEROSA.

NERIENE TUBEROSA, *Blackw.*, Spid. Great Brit. and Irel., p. 278, pl. xix., fig. 192.

This spider is about the same size as the foregoing—about 1-12th of an inch, or rather more in length—and resembles it in colours and general appearance.

The cephalo-thorax has also the middle of its upper side con-

siderably elevated or gibbous, but not so abruptly protuberant as in the last species; nor is there any depression, clothed with hairs, in front of the elevation as in *Neriene gibbosa*. The palpi are very similar to those of that species.

The female is very difficult to be distinguished from that of *Neriene gibbosa*; resembling it almost exactly in size and colours.

I have found this species in tolerable abundance in the same locality, and at the same period of the year, as the spider last mentioned; and Mr. Blackwall has met with it in North Wales.

#### NERIENE CORNUTA.

*NERIENE CORNUTA*, *Blackw.*, Spid. Great Brit. and Irel., p. 267, pl. xviii., fig. 181.

The male of this very abundant but distinct little spider is about 1-12th of an inch in length, and the female is rather larger. It may be known at once by two longitudinal-oval protuberance on the fore part of the upper side of the caput; these protuberances are parallel, and close to each other, and have a rather forward direction, the eyes being close in front of them. The cephalo-thorax is of a deep black-brown colour, the legs and palpi brownish-red, and the abdomen black. The radial joint of the male palpus has a long, slender, curved, pointed apophysis at the fore extremity on the inner side, a small, curved, pointed one in front, and a short obtuse one underneath; the palpal organs are complex. The female resembles the male in colours, but is larger and wants the cephalic protuberances.

I find this spider, very frequently, running on iron railings, and on posts in sunshine, in spring-time and early summer; also on bushes and the lower boughs of trees at Bloxworth, and in many other localities in Dorsetshire and England generally. It is found also in North Wales,

## NERIENE BITUBERCULATA.

NERIENE BITUBERCULATA, *Wider., Blackw.*, Spid. Great Brit. and Irel., p. 268, pl. xviii., fig. 181.

This spider is very nearly allied to *Neriene cornuta*, and the male has two protuberances on the caput like that species; but it may at once be distinguished by its larger size (the male measuring 1-10th of an inch in length), and the proportionately larger and bolder protuberances, as well as by its totally different colourings.

The cephalo-thorax, legs, and palpi are of a clear, bright reddish-yellow colour, and the abdomen black. The protuberances on the caput are much paler in colour than the surrounding surface. The palpi also are of a rather different structure from those of *Neriene cornuta*.

The female resembles the male in colours, but is larger, and the caput is but very slightly protuberant behind the eyes, with a very fine, depressed, longitudinal line over the middle of the protuberant part.

I have found both sexes of this spider among water-weeds, and moss, in a swamp at Bloxworth, as well as near Chamberlain's bridge; it has occurred also, running in sunshine, on the parapet of the bridge, and on the causeway fence, Morden Park, near Bloxworth; and I have received it from some other parts of England, and from Scotland.

## NERIENE CLARKII.

NERIENE CLARKII, *Cambr.*, Trans. Linn. Soc., xxvii., p. 441, pl. 56, No. 30.

The adult male is 1-11th of an inch long. The cephalo-thorax is yellowish-brown, the legs rather lighter coloured, and the abdomen of a dull, blackish hue. A leading character of this spider is the unusually large size of the digital joints of the



palpi and palpal organs; these, together, present the appearance of an enormous club at the end of a very slender stem. The radial joint is very short, shorter than the cubital, and is dilated on each side of its extremity; the outer dilation is the longest, ending in a blunt point; and both are furnished with hairs, of which some form a row round their outer margins. The caput does not rise above the thoracic level. This spider is allied to *Neriene livida*, Blackw., but the far larger size of the digital joint and palpal organs, will serve to distinguish it without any difficulty. The female is unknown.

An example of this rare spider was found by my son (Robert Jocelyn), on iron railings at Bloxworth Rectory, on the 24th of March, 1875; and another was met with by myself under a piece of old board in the kitchen garden, on the 24th of May, 1877. Two other examples only have, as yet, occurred in Britain, one near Dover, and the other at Paisley, in Scotland.

#### NERIENE LATEBRICOLA.

NERIENE LATEBRICOLA, *Cambr.*, Trans. Linn. Soc. xxvii., p. 444, pl. 56, No. 32.

The male of this spider is only 1-16th of an inch long. The cephalo-thorax has the caput slightly raised above the thorax, but only in a generally convex form; its colour is a light yellowish-brown, that of the legs being of a deeper hue, tinged with red-brown; and the abdomen is dusky-brown, tinged with greenish-yellow. The radial joint is equal to the cubital in length, but is stronger, and projects from its upper side, towards the hinder extremity, a long, strong, slightly sinuous, rather bent, bluntish pointed apophysis, the length of which almost equal to that of the radial and cubital joints together.

I found both sexes of this very distinct little spider, in tolerable abundance, among moss in a wood at Bloxworth, in the spring of 1866. It had been discovered only a few days previously near Paisley, in Scotland.

## NERIENE FUGAX.

NERIENE FUGAX, *Cambr.*, Trans. Linn. Soc. xxvii., p. 445, pl. 56, No. 33.

An adult male measured 1-13th of an inch in length. The whole spider is of a very elongate form. The caput is not raised above the thorax, but behind each lateral eye, of the hinder row, there is a small, but distinct, longitudinal indentation. The colour of the cephalo-thorax is a deep, rich brown, while that of the legs is bright, yellowish red-brown, the femora, however, being paler than the rest. The abdomen is of a rather flattened, elongate-oval shape, glossy black, with a greenish tinge. The palpi are yellowish and short; the cubital joint is curved, enlarges gradually to the fore extremity and is longer than the radial joint, which has three projections from its extremity; the largest and longest of these projections is in front, and ends in a straight, red-brown, shining, corneous point, directed outwards over the base of the digital joint; this last joint is large, of a round-oval form, and contains the palpal organs, which are prominent and complex. The eyes are rather large, and those of the two lateral pairs, with the four-centrals, form a curved line, with scarcely any intervals between them. An adult female resembled the male but was smaller.

The two examples, above mentioned, of this distinct spider, are the only ones yet recorded, and were found among moss, in a wood at Bloxworth, in April, 1867.

## NERIENE NEGLECTA.

NERIENE NEGLECTA, *Cambr.*, Trans. Linn. Soc. xxvii., p. 443, pl. 56, No. 31, a, b, c, d, e.

The adult male measures 1-12th of an inch in length. The caput is not raised above the thoracic level. The colour of the cephalo-thorax (which is of a flattish form, with scarcely any marginal compression at the caput), is of a yellow-brown colour, with a few bristly hairs, directed forwards, in the central line. The legs are of a pale yellowish hue, and the abdomen blackish-

brown. The falces are long, strong, straight, perpendicular to the caput, rather gibbeous in front near the base, and compressed, or pinched in, at their extremities. Both the radial and cubital joints are of a clavate form, the radial being broadly, and obtusely produced at its extremity on the outer side.

This spider is evidently very rare, since but one example is on record in Dorsetshire. It was found among moss at Bloxworth in 1863. Some years since that time, however, I have received one or two specimens of it from Scotland.

#### NERIENE LIVIDA.

NERIENE LIVIDA, *Blackw.*, Spid. Great Brit. and Irel., p. 252, pl. xviii., fig. 169.

„ „ *Cambr.*, Trans. Linn. Soc., xxvii., pl. 56, fig. No. 31, f.g.h.

This spider is very nearly allied to the foregoing, being of the same general form; but it is much larger, measuring 1-8th of an inch in length. It is also of a much deeper, richer colour, besides differing slightly, though distinctly, in the structure of the palpal organs. The cephalo-thorax is red-brown, deepest on the caput; the legs are dark, reddish yellow-brown, and the abdomen blackish-brown, with four reddish yellow-brown, impressed spots, in the form of a quadrangle, on its upper side. The falces have the extremities flattened, as if by a sudden pinch or compression very similar to those of *Neriene neglecta*. The female is larger, but resembles the male in colours and general characters. It is not a rare spider under stones, and among moss, or other *débris*, in damp places at Bloxworth, and in several other localities in Dorsetshire. It is also generally distributed throughout England and Scotland.

#### NERIENE ALBIPUNCTATA.

NERIENE ALBIPUNCTATA, *Cambr.*, Trans. Linn. Soc., xxviii., p. 451, pl. xxxiv., No. 15.

The male of this spider measures nearly 1-6th of an inch in

length, and the female is larger. It may readily be distinguished by the great length and strength of the divergent falces, which are armed on their inner sides with two strong, prominent, sharp teeth, one of which is much larger than the other, and has a small tooth-like prominence near the middle of its anterior side, giving it a somewhat bifid look. The fangs are also long, strong, slightly bicurvate, and have a shallow, tooth-like eminence about the middle of the inner side. The cephalo-thorax and legs are dull yellow-brown, and the abdomen black, with a few small whitish spots on the upper side, arranged in two longitudinal, widely-separated rows. The legs of the first and second pairs have, besides other bristles and hairs, numerous erect ones on the tibiæ and metatarsi. The palpi somewhat resemble those of *Neriene livida*. The female resembles the male in colours and general appearance.

Two examples of the male were met with at Bloxworth, among grass in damp places in May and June, 1850-71, and a third among heather, in 1875. In June, 1877, a male and several females were found, among star grass, on the sand hills near the sea at Studland.

On a spider very closely allied to the present *Herr Menge*, in his History of Prussian Spiders, has established a new, and, probably, good genus *Drepanodus*.

#### NERIENE RUFA.

*THERIDION RUFUM*, *Wider*, Zool. Misc. Mus. Senck., p. 218, pl. xv., fig. 3.

*NERIENE RUBRIPES*, *Blackw.*, Spid. Great Brit. and Irel., p. 287, pl. xix, fig. 201.

The male of this spider is about 1-6th of an inch in length, and the caput does not rise above the level of the thorax. The colour of the cephalo-thorax is red-brown, the legs reddish, and the abdomen brownish-black. The falces are very strong, prominent towards their base in front, and have a tooth-like process near their extremity towards the inner side; and the legs are furnished not

only with hairs, but with strongish bristles, approaching the nature of spines; they are called spines by Mr. Blackwall, but are not, however, reckoned to be spines, *sensu stricto*, by other authors. The distinction between a strong bristle and a slender spine is an extremely arbitrary one, and liable to be disregarded or not, according to the systematic value placed upon the presence or absence of spines. If the present spider were considered to possess true spines on the legs, it would, according to some authors, have to be removed from the genus *Neriene* into that of *Linyphia*; since *Neriene, sensu stricto*, ought not to contain spiders with such spines. It appears to me that the armature in question does, in this species, come rightly under the description of *fine spines*, and that eventually this spider will, with some others, form a generic group pretty nearly equivalent to *Bathyphanes* Menge. The palpi are long; the radial joint is rather produced, in an obtuse form, at the fore extremity of the upper side, where (as well as on the sides) it is furnished with strong bristles. The digital joint is of moderate size, with a very distinct lobe, or prominence, on the outer side. The palpal organs are prominent and complex, with, among others, a large, bent, irregularly triangular process at their base on the outer side. The female is rather larger and lighter coloured than the male.

I have found this spider, though very rarely, among moss in early summer at Bloxworth; and it has been met with in Scotland and Wales, but equally rarely.

#### NERIENE SAXATILIS.

*NERIENE SAXATILIS*, Blackw., Spid. Great Brit. and Irel., p. 262.

The male of this small spider measures but 1-12th of an inch in length, and the caput is on a level with the thorax. The colour of the cephalo-thorax is brown, that of the legs paler brown, and the abdomen blackish. The radial joint of the palpus has at its fore extremity, near the upper side, a pointed projection curved outwards, and the digital joint has a protuberance at its

base, which is indented on the outer side. The palpal organs are highly developed, and complex. The legs are furnished with a few, very fine, bristle-like spines, and on this account it is placed in the genus *Linyphia* by Dr. Thorell. It has, however, it seems to me, stronger affinity to *Neriene* in the more important parts of its structure, and consequently I have not followed in this removal. It will probably form one of the group mentioned in describing the last species.

Found, but rarely, among moss at Bloxworth in the spring, and early summer months. It has also been met with in North Wales and Scotland.

#### NERIENE SUNDEVALLII.

ERIGONE SUNDEVALLII, *Westr.*, Aran. Suec., p. 290, and *Cambr.*, Trans. Linn. Soc. xxvii., p. 450.

The length of the male of this spider is 1-13th of an inch, and the female is a little larger. The cephalo-thorax is of a yellowish-brown colour, the caput darkest, but not raised above the level of the thoracic portion. The legs are of a yellow-brown hue, sometimes tinged with dull reddish. Those of the first and second pairs are not only furnished with hairs and slender bristles, but have also, beneath the tibiæ and metatarsi, two longitudinal rows of decided, and slightly curved, strongly divergent spines. These spines are most conspicuous in females. The colour of the abdomen is dark blackish-brown, and occasionally quite black. The palpi are short, the digital joint is of moderate size, but the palpal organs are not remarkable for any great peculiarity of development. The female resembles the male in colours, as well as in the spines beneath the two fore pairs of legs.

I have found both sexes of this little spider on several occasions among moss in damp woods, at Bloxworth, in the months of April, May, and June, and have also received it from Ireland.

The spines underneath the two first pairs of legs will serve to distinguish this species from all others of this group known to me.

## NERIENE DOLOSA, sp. n.

Adult male length 1-14th of an inch.

The whole of this little spider, which had evidently not long attained maturity, is of a pale, dull, whitish hue, which would in the course of a short time, probably have deepened into yellow-brown, varying in depth on different parts.

The profile of the cephalo-thorax, which is considerably convex. forms a strong curve on the caput and thorax, to the beginning of the hinder slope, and the normal indentations are not very strongly defined; five bristly hairs, directed forwards, form a straight line along the middle of the caput.

The *eyes* are of moderate and not very unequal size; they are closely grouped in a transverse and somewhat oval figure; the posterior row strongly curved, the anterior almost straight, The eyes of the two lateral, and fore-central pairs form a strong, even curve with no perceptible intervals between any of the six eyes of which it is composed. The intervals between those of the hinder row are nearly about equal, and do not exceed an eye's diameter.

The *falces* are moderate in length and strength, perpendicular, very slightly divergent at the extremities, and armed with a few very minute teeth.

The *legs* are short, rather slender, 1.4.2.3., furnished with hairs, and a few slender erect bristles on the upper sides of the tibiae.

The palpi are short, the radial is stronger than the cubital joint, spreading, and prominent in front; the digital joint is rather small, with a somewhat prominent lobe on the outer side; the palpal organs are moderately complex, with two or three small, black, spine-like projections close together at their fore extremity, and a much larger, sub-triangular process with a prominent black point, at their base on the outer side; this point is in such close connection with the fore extremity of the outer side of the radial joint, that it is not easy to see, at first, whether it forms part of that joint or not.

The abdomen is of a short-oval form, in fact, nearly globular; the anterior part projects over the base of the cephalo-thorax, and the posterior extremity extends rather over the spinners, which are thus seated a little underneath.

A single example of this spider was found among moss in Morden Park, near Bloxworth, at the beginning of October, 1878.

#### NERIENE LUCIDA.

NERIENE LUCIDA, *Cambr.*, Trans. Linn. Soc., xxviii., p. 452, pl. xxxv., No. 27.

The length of the adult male is not quite 1 line.

The colour of the cephalo-thorax (of which the caput and thorax are on the same level) is a dark, blackish, shining brown, with a single longitudinal central row of bristly hairs. The colour of the legs is bright orange-yellow, and the palpi of a rather duller hue. The abdomen is jet black, glossy, and has four tolerably conspicuous impressed dots, or punctures, nearly in the form of a square, about the middle of the upper side. The radial joint of the palpus is produced at its outer extremity, a little in front, into a considerable, slightly curved, and obtusely ended projection, whose broad point is directed rather inwards. The digital joint is large, the palpal organs prominent, but not very complex, and furnished with closely fitting, strongish, double-coiled, black, filiform spine at their extremity.

A single example only has yet been recorded; this was found in Bloxworth, in June, 1870, running among grass in a damp meadow. It is allied to *Neriene vigilax*, Bl., but differs in the colour of the legs, and in the form and direction of the radial apophysis.

#### NERIENE VIARIA.

NERIENE VIARIA, *Blackw.*, Spid. Great Brit. and Irel., p. 255, pl. xviii., fig. 171:

The male measures 1-10th of an inch in length, and the caput



does not rise above the thoracic level. The colour of the cephalo-thorax is dark yellow-brown. The legs and palpi are paler, and the abdomen is either deep brown, or black. The cubital joints of the palpi have some long, strongish hairs at their extremity, in front, in a sort of tuft. The digital joint is rather large and has a largeish lobe on the outer side; the palpal organs are prominent and complex.

This spider occurs occasionally at Bloxworth, among moss and at the roots of rank herbage in hedges; I have also found it several times crossing the road in sunshine. The group of long hairs on the cubital joints of the palpi are a striking, and distinguishing character. I have received this spider from some other parts of England, as well as from Scotland and North Wales.

#### NERIENE NIGRICEPS.

NERIENE NIGRICEPS, *Cambr.*, Ann. and Mag. N. H., Ser. 4, Vol. 16, p. 248, pl. viii., fig. 6.

A very distinct and interesting little spider. The length of the adult female is  $1\frac{1}{2}$  lines. The profile of the cephalo-thorax shews that the caput is not raised above the thorax. The colour of the cephalo-thorax is orange-yellow, the caput black; the legs and palpi are rather paler than the cephalo-thorax, and the abdomen is dull black, tinged with olive. The legs are long, rather strong, particularly the femoral joints, and are furnished with hairs, and a few slender, prominent, spine-like bristles on the femora and tibiæ. The falces are rather long, not very strong, slightly divergent, and nearly perpendicular. The eyes of the hind-central pair are distinctly nearer to each other than each is to the lateral eye next to it. Those of the fore-central pair are not quite contiguous to each other, and are divided from the fore-laterals also by a very small interval.

A single example was found among heather at Bloxworth, in May, 1875.

## NERIENE SYLVATICA.

NERIENE SYLVATICA, *Blackw.*, Spid. Great Brit. and Irel. p. 254.

The length of the male is 1-4th of an inch. The caput is level with the thorax. The colour of the cephalo-thorax is brown. The legs and palpi are tinged with red, and the abdomen is brownish-black. The falces have each a longitudinal row of very short fine spines near the outer side in front. The cubital and radial joints of the palpi are short, and the former has a long strong, straight spine-like bristle at its fore-extremity in front. The digital joint is of a tolerable size, and has a strongish sub-conical enlargement at the upper part in front, a smaller conical one at the base, and a prominent lobe on the outer side. The palpal organs are prominent and complex; besides other processes, there is, on the outer side of the upper part, a strong curved, obtuse, corneous one, whose outer edge is distinctly serrated.

This spider is exceedingly rare in Dorsetshire, having occurred, at Bloxworth, on only one or two occasions. It seems to be more common in the north of England. Several examples having been received from Berwickshire, and it has been met with in North Wales. The row of minute spines on the falces, and the serrate-edged process of the palpal organs are very characteristic, and quite sufficient for the distinction of this spider from others nearly allied.

## NERIENE FUSCIPALPIS.

MICRYPHANTES FUSCIPALIS, *C. L. Koch.*, Die Arachn., iii., p. 46., pl. lxxxix., fig. 202.

„ RURESTRIS, *ibid.*, l. c., p. 84, pl. ci., fig. 231, 232.

NERIENE GRACILIS, *Blackw.*, Spid. Great Brit. and Irel., p., 256 pl. xviii., fig. 172.

„ FLAVIPES, *ibid.*, l. c., p. 264, pl. xviii. fig. 178.

The adult male of this slender and delicate little spider varies

in length from 1-12th to 1-14th of an inch in length and the female is a little larger.

The caput does not rise above the thoracic level. The cephalo-thorax is black or nearly so, as also is the slender, narrow, oviform abdomen; the legs are rather long, very slender, and vary from yellowish to red-brown. The radial joints of the palpi are very short, and have a very small, pointed projection at their fore extremity on the outer side. The digital joint is subconically prominent towards its base, the prominent part indented on the outside; the palpal organs are complex, but pretty compact, and, with the digital joint, are of a nearly circular form. The falces are strong, divergent, and rather attenuate at their extremities; and the legs are armed with a few erect, very slender spines, or rather strong bristles.

This is an abundant, and almost universally distributed spider throughout the summer and early autumn months. It may be seen, frequently, running on the ground; or, as it is strongly addicted to aerial excursions, it will often be found on one's hat or coat, intercepted in its airy flight; it is also frequent among grass and other herbage. Having had the opportunity of examining typical examples both of *Neriene flavipes*, Bl., and *Neriene gracilis*, ibid., I feel no doubt about their being specifically identical.

#### NERIENE PENICILLATA.

ERIGONE PENICILLATA, *Westr.*, Aran Suec., p. 289.

NERIENE CORTICEA, *Cambr.* Zoologist, 1862, p. 7964.

The adult male of this small, but very distinct, spider measures only 1-16th of an inch in length, and the female is a trifle larger. The caput does not rise above the thoracic level; but there is a strong transverse depression about the region of the occiput, which is seen very distinctly when looked at in profile. The colour of the cephalo-thorax is blackish-brown, the legs and palpi yellowish-brown, and the abdomen black. The radial joints of the palpi have the upper side rather protuberant, and

furnished with a tuft of strong, bristly, black hairs, and at the fore extremity is a strong projection, stretching obliquely outwards over the base of the digital joint, and ending somewhat in the form of a crescent.

This species is not rare among lichens on trees (especially apple trees) at Bloxworth, and is adult in the early summer months. I have also met with it at Glanvilles Wootton.

#### NERIENE INNOTABILIS.

NERIENE INNOTABILIS, *Cambr.*, Zoologist 1863, p. 8582.

The adult male measures 1-12th of an inch in length. The caput is level with the thorax. The colour of the cephalo-thorax is yellowish-brown, the legs rather paler, and the abdomen darker brown. The two central eyes of the hinder row are *further from each other* than each is from the lateral eye, of the same row, on its side. The palpi are short, the radial joint is rather longer and stronger than the cubital, and is produced a little in front on the inner side, ending in an obtuse point. The cubital joint has several strong, black, bristly hairs in front on the upper side; the digital joint is large and obtusely conical on the upper side, the point of the cone rather directed outwards. There is also an angular enlargement near the base on the outer side. Palpal organs prominent and complex. Rare at Bloxworth among moss in spring. I have also met with it at Hursley, near Winchester.

#### NERIENE SUBTILIS.

NERIENE SUBTILIS, *Cambr.*, Zoologist 1863, p. 8584.

Adult male, length 1-12th of an inch. The caput does not rise above the level of the thorax. The colour of the cephalo-thorax is reddish yellow-brown, that of the legs brightish red-brown, paler at the articulation of the joints, and the abdomen black, or brownish-black. The two central eyes of the hinder row are *nearer together* than each is to the lateral eye on its side.

The palpi are very similar to those of *Nesio ianetulus* to which it is closely allied, but the conical prominence on the digital joint is stronger: the relative position of the eyes of the hinder row also differs, as may be seen on comparing the descriptions of the two spiders. Found occasionally among moss in woods at Bloxworth in the months of May and June.

#### NERIENE COSIGERA.

*NERIENE COSIGERA*, Camb. Trans. Linn. Soc. xxviii., p. 450, pl. xxxiv., No. 17.

Adult male, length 1-15th of an inch, female rather larger. The caput is on about the same level as the thorax, with a strongish dip between them. The colour of the cephalo-thorax is yellow-brown marked with blackish marks, and veinings, most of which converge to the thoracic junction; the legs are yellow, tinged with orange in some specimens, slender, and rather short; the abdomen black, glossy, and clothed very sparingly with hairs. The eyes are of tolerable size, and rather closely grouped in a transverse, oval figure, the two rows being of equal curvature; those of the hind-central pair are a very little further from each other than each is from the lateral eye on its side.

This spider may be easily distinguished from both the foregoing (to which it is nearly allied) by its smaller size, and by the far greater development of a somewhat similar, but more considerable, conical prominence on the digital joint of the adult male; the apex of this prominence is slightly directed backwards and outwards, in a somewhat curved form. The palpal organs are highly developed, and complex.

The female resembles the male in colours and other general characteristics.

Found, very rarely, on furze bushes on the heath at Bloxworth, in spring and early summer. I have received it from Aberdeen and Berwickshire; and have met with it also on furze bushes at Newhaven, near Brighton.

## NERIENE PALLIPES.

NERIENE PALLIPES, *Cambr.*, Trans. Linn. Soc. xxvii., p. 437.

Adult male, length 1-17th of an inch.

The colour of the cephalo-thorax of this small spider is yellowish-brown, finely margined with black. The legs are moderate in length and strength, furnished with hairs and a few slender spines, and of a pale, dull, yellowish colour. The abdomen is oval, glossy, very thinly clothed with hairs, and of a dull black hue. The caput is confluent on the sides with the thorax, owing to the very slight development of the normal indentations; when seen in profile, the outline of the caput forms an even curve to the base of the falces; the height of the clypeus is equal to half that of the facial space. The eyes are small, and rather closely grouped together; they differ but little in size; the hind centrals are rather nearer to each other, than each is to the lateral eye next to it; the fore-centrals are contiguous to each other, and each is about an eye's diameter from the fore lateral next it.

The palpi are short, and the radial and cubital joints are of equal length; the former is the strongest, but is devoid of any projections; the digital joint is comparatively large, and greatly exceeds in length that of the radial and cubital joints together; the palpal organs are complex and highly developed.

The female resembles the male in colours and general characters, but is rather larger.

An example of each sex was found on low bushes in a wood at Bloxworth, in July, 1860.

## NERIENE ANOMALA.

NERIENE ANOMALA, *Cambr.*, Zoologist, 1863, p. 8585.

Length of the adult female 1-11th of an inch.

The cephalo-thorax is dull yellow-brown, with some sooty lines converging to the thoracic junction; the legs and palpi are bright yellow-brown; and the abdomen is large, of a long-oval

form, and of a sooty, brown-black hue, thinly clothed with short, pale hairs. The palpi are short, the digital joint is large, of a long-pointed, oval shape, tumid at the base and pointed at its extremity, like the undeveloped palpus of male spiders. The genital aperture has a strong prominence connected with it; and had it not been for the plain evidence, as to sex, furnished by this latter portion of structure I should, without hesitation, have decided the examples examined to have been those of immature males. The eyes of the hind-central pair are rather further from each other than each is from the hind-lateral eye on its side; those of each lateral pair are placed very slightly obliquely, and are contiguous to each other.

This remarkable spider is very rare, among heather, at Bloxworth; and it may easily be distinguished from all others yet known to me, by the tumid digital joint of the palpus above detailed. Mr. Dale has also met with it among moss at Glanvilles Wootton.

#### NERIENE MOLLIS.

NERIENE MOLLIS, *Cambr.*, Trans. Linn. Soc., xxvii., p. 439.

The length of the adult male is 1-16th of an inch.

This is a very minute and obscure species; and, as it had only recently moulted, it had not quite attained its permanent colours. These appeared to be (like those of many others of the genus) yellow-brown on the cephalo-thorax; legs and palpi yellow, and abdomen brownish-black. The caput is level with the thorax, with a shallow, notch-like depression between them, when seen in profile; the height of the clypeus is equal to half that of the facial space. The eyes are closely grouped, of moderate size, and do not differ much, in this respect, from each other; those of the fore-central pair are not quite contiguous, but are equally separated from each other, and from the fore laterals. The intervals also between those of the hinder row are very nearly equal. The palpi are very short, the radial is rather stronger than the cubital joint, but is destitute of any terminal projection or apophysis;

the digital joint is small and round-oval in form; the palpal organs are well developed and complex, but compact.

One example only, found at Bloxworth, has as yet come before me. When first described it was stated, inadvertently, to have been found near London. Its nearest ally is *Nerienes fuscipalpis*, *C. L. Koch*, but the falces are larger and less strong at their base, and the form and structure of the palpi and palpal organs is different.

#### NERIENE ARUNDINETI.

*NERIENE ARUNDINETI*, *Cambr.*, Trans. Linn. Soc. xxvii., p. 441.

Adult female length 1-10th of an inch.

This spider is very like the female of *Nerienes livida*, *Bl.*, it is, however, smaller; its abdomen is blacker, and devoid of the pale markings, and red-brown, impressed spots on the upper side, and is more perceptibly clothed with long, prominent, pale hairs; nor is it likely to be the female (at present unknown) of *Nerienes neglecta*, *Cambr.*, the relative position of the eyes of the hinder row being different; in the present spider these are equidistant from each other; and the inner extremities of the falces are devoid of the depressed, or pinched form characteristic both of *Nerienes livida* and *Nerienes neglecta*; it is more like the female (lately discovered) of *Nerienes albipunctata*, *Cambr.*, but at present I believe it to be distinct also from that species.

I have met with but one example of this spider—in a marshy spot at Bloxworth in 1866. It occurs (I am told by Dr. L. Koch who has examined the specimen described) near Nürnberg, in Bavaria.

#### NERIENE FORMIDABILIS.

*NERIENE FORMIDABILIS*, *Cambr.*, Trans. Linn. Soc., xxvii., p. 447.

This is the largest spider of the group yet known to me, the length of the adult female being very nearly 1-5th of an inch.

The colour of the cephalo-thorax is dark yellow-brown; the



falces darker, and strongly tinged with red. The legs and palpi are bright brownish-yellow; and the abdomen is deep black-brown, clothed pretty thickly with fine prominent hairs. Looked at in profile, the outline of the caput and thorax forms a rather convex curved line, from the eyes to the hinder slope, which is long and gradual; the clypeus is nearly vertical, and its height is equal to half that of the facial space. The eyes are small, seated on black spots, but do not differ greatly in size; those of the lateral pairs are seated on oblique tubercles; those of the hind-central pair are nearer to each other than each is to the lateral eye, of the same row, next to it. The falces are moderately long, but massive and strong, very prominent at their base in front, straight, nearly perpendicular, and armed with some strong sharp denticulations, near their extremity on the inner sides. The legs are furnished with hairs only. A single example was found at Bloxworth among dead leaves in spring-time, some years ago. It is nearly allied to (but I think distinct from) *Nerione huthwaitii*, Cambr., a spider not yet found in Dorsetshire, though very likely to occur there.

#### NERIENE ASPERA.

NERIENE ASPERA, *Cambr.*, Trans. Linn. Soc. xxvii., p. 448.

Adult female, length 1-11th of an inch.

This spider is nearly allied to *Nerione neglecta*, Cambr., of which, as before remarked, the female is not yet known. It resembles that species very closely in form and colours, but is rather smaller and *much more hirsute*, the hairs on the legs and abdomen being coarser and denser; it is also allied to *Nerione oblonga* (now removed to *Linyphia*); but it may be at once distinguished from the latter species by the absence of any spines on the legs, as well as by the larger size, and closer grouping of the eyes. These form two, more nearly straight, transverse rows, the rows being *very close to each other*. The eyes of the hind-central pair are nearer to each other than each is to the lateral on its side; and those of the fore-central pair are not quite contiguous to each other. The

height of the clypeus is equal to half that of the facial space. The terminal tarsal claws are more than usually conspicuous.

A single example only was found, in the month of June some years ago, on the iron railings enclosing the lawn at Bloxworth Rectory.

#### NERIENE APERTA.

NERIENE APERTA, *Cambr.*, Trans. Linn. Soc. xxvii., p. 450.

The length of the adult female is 1-16th of an inch.

The whole of the fore part of this spider (which is allied to *Neriene livida*, Bl.), including the legs and palpi, is yellow-brown, tinged slightly with red; and the abdomen is black, tinged with yellowish, and clothed thinly with hairs. The eyes of the hinder row are separated by equal intervals, and the fore-centrals are contiguous to each other. The height of the clypeus slightly exceeds half that of the facial space, and the occipital region is a very little higher than the rest of the caput and thorax. The legs are clothed with coarse hairs, and a few slender, erect bristles. The falces are strong, slightly directed backward, and rather divergent. The large size of the genital aperture, which is nearly circular, and placed on the summit of a large, red-brown, rounded protuberance, is very characteristic.

A single example found among moss at Bloxworth, in April, 1866.

#### NERIENE HISPIDA.

NERIENE HISPIDA, *Cambr.*, Trans. Linn. Soc. xxvii., p. 449.

Adult female length 1-8th of an inch. This spider resembles *Neriene livida*, Bl. very closely in its colours, but is smaller and of a stouter form, and may be readily distinguished by the rugulosity of the front of the falces which are strong, straight, and vertical; a portion at the base and at the extremity is, however, free from rugulosity, and the extremity is not pinched in, or flattened, as in *N. livida*. The abdomen also is blacker and more hirsute; being clothed with short, strong, prominent hairs, and projecting

greatly over the base of the cephalo-thorax. The height of the clypeus is equal to half that of the facial space. The eyes of the hind-central pair are nearer together than each is to the lateral eye, next to it; the fore-centrals are unusually separated, and with the hind-centrals form very nearly a square, whose fore side is a little the shortest. The legs are strong, and well furnished with coarse hairs and slender erect bristles.

This species is nearly allied to (but I think distinct from) *Neriene albipunctata*, Cambr. Examples of it were found at Portland, under stones, in October, 1860.

#### NERIENE JUGULANS, sp. n.

Length of an adult female 1 line.

This spider is of ordinary form, and bears considerable general resemblance to several other species.

The cephalo-thorax has the profile line slightly impressed between the eyes, and the thoracic indentation; and the lateral marginal constriction, on each side of the caput, is also very slight. Its colour is yellow, margined with a fine black line, that of the legs being of a rather deeper, or more orange-brown hue; the sternum is slightly suffused with sooty-brown, and the abdomen is also of a slightly sooty, yellow-brown colour, with various specklings and lines of a clearer hue, probably visible only in spirit of wine.

The eyes are rather closely grouped together in two transverse rows, the hinder row curved, the convexity of the curve being directed backwards, and the front row nearly straight. All, excepting those of the fore-central pair, are rather large, and nearly equal in size; the fore laterals being, apparently, the largest. Those of the posterior row are very nearly, if not quite, equally separated from each other, the intervals being equal to about half of an eye's diameter; that between the two hind-centrals is, perhaps, slightly greater than the rest; those of each lateral pair are placed a little obliquely, and are almost, but not quite, contiguous to each other; those of the fore central pair are difficult to distinguish

clearly, but are apparently contiguous to each other, and are separated from the fore laterals by only a very small interval. The height of the clypeus is less than half that of the facial space, but is greater than the diameter of one of the fore lateral eyes.

The legs are moderate in length (4. 1. 2. 3.), rather strong, especially the femoral joints, and are furnished sparingly with hairs, and with a few fine, prominent, spine-like bristles on the outer sides of the tibiæ. The palpi are short, similar in colour to the legs, and are also furnished with a few strong, spine-like bristles. The falces are rather short, tolerably powerful, nearly vertical, armed with a few small teeth, and like the cephalo-thorax in colour.

The abdomen is of an elongate-oval, somewhat cylindric, form, and projects over the base of the cephalo-thorax. The genital aperture is large, of very characteristic form, and placed at the hinder margin of a large, roundish convexity.

This spider is a striking instance of the difficulty of assigning the true generic affinity of many of the small spiders at present included in the genus *Neriene*; it has a decidedly *Drassid* appearance, but is yet removed far from that family by the possession of three terminal tarsal claws, and the absence of any claw at the end of the female palpus. It is also, not remotely, allied to some of the spiders at present included in the genus *Linyphia*, such as *Linyphia oblonga* Cambr., and *Linyphia incerta*, *ibid.*; but it may be distinguished by the larger size of the eyes, which are seated upon black tubercular spots.

The only example I have seen, as yet, is one found in the autumn of 1878, near Sherborne, by my nephew (Frederick P. Cambridge).

#### NERIENE BICUSPIS.

NERIENE BICUSPIS, *Cambr.*, Zoologist 1863, p. 8588, and Trans.  
Linn Soc. xxviii., p. 451, pl. 35, No. 26.

This is one of the most remarkable species of the genus. The

length of the adult male is no more than 1-line of an inch, or not much more than half a line.

The cephalo-thorax is broad, flattened and nearly round, the fore part broadly truncate, or squared off; near each frontal corner is a moderately elevated tubercular eminence, surmounted by a short, strong, pointed, black cusp or spine, slightly curved, and its point directed inwards and forwards.

The colour of the cephalo-thorax is a dull, semi-diaphanous, olive-brown; that of the legs and palpi pale yellow-brown; the articulations of the joints of the legs are strongly tinged with reddish orange-brown; and the abdomen is glossy, of a dark sooty-brown hue, and sparingly clothed with hairs.

The palpi are long; the cubital longer and stouter than the radial joint; which last has the upper side of the fore extremity produced into a kind of longish, tapering, nearly straight spur, and in opposition to this is another more pointed one at the lower side. The form of the extremity of this joint is difficult to describe correctly, and has the appearance of being very different from different points of view. The eyes of the fore and hind central pairs form a quadrangle, broadest behind, between the frontal cusps, and the lateral pairs are seated very obliquely at the bases, in front, of the tubercles on which the cusps stand.

Except in wanting the frontal tubercles and cusps, and being rather larger, the female resembles the male.

Found not unfrequently, at Bloxworth Rectory, in April and May, 1862 (but more rarely since) upon iron railings; in the angles formed by the uprights and rails of these, it spins an irregular snare, and sits in it in an inverted position. In 1874 I received this spider from the neighbourhood of Paris, where it was found by Mons. Eugène Simon.

#### GENUS WALCKENAERA, *Blackw.*

The numerous little spiders comprised in this genus cannot be

separated generically from *Neriëne*; that is to say not as that genus is at present characterized and limited; but they may be, for the most part, easily distinguished (at least in the male sex) by the structure of the fore part of the caput; this portion is, excepting in a few instances, more or less elevated protuberant or prominent, and the eyes are grouped more or less closely *upon* or *round* the elevation. In *Neriëne*, on the contrary, the eyes are always external to any eminence on the caput; and, excepting in a comparatively few instances, there is no eminence at all upon it. The females of *Walckenaëra*, excepting those of a few species, are destitute of the form of the caput so characteristic of the males, and are, mostly, quite indistinguishable from the females of *Neriëne*. In colours the spiders of the two genera are usually similar; different depths, however, of colouring are good specific characters in *Walckenaëra* as they are also in *Neriëne*; the various species of *Walckenaëra* are also found in similar situations, and (so far as they are known) their habits and snare are similar. The armature of the legs consists of hairs, and very slender bristles only; these latter are generally erect or very prominent, and never attain a spinous nature as do those of some species of *Neriëne*.

The genus *Walckenaëra* contains some of the smallest known spiders—one, *W. diceros*, Cambr.—measuring less than half a line in length.

The differences in the form and structure of the caput constitute the most tangible, as well as the best, specific characters of the male. Fifty-seven species are at present known as British, and of these thirty-eight have been found in Dorsetshire.

A Prussian arachnologist, Herr Menge, has constituted numerous genera out of the various species of *Neriëne* and *Walckenaëra*, but as most of his genera are chiefly based on almost microscopic characters, derived from a portion of the male structure only, they will hardly (at any rate not all of them) retain their place in a scientific system.

## WALCKENAERA BREVIS.

*THERIDIUM BREVE*, *Wid.*, Zool. Misc. Mus. Senck. p. 236 (242),  
pl. xvi., fig. 8.

*WALCKENAERA DEPRESSA*, *Blackw.*, Spid. Great Brit. and Irel.,  
p. 306, pl. xxi., fig. 221.

The adult male measures less than one line in length, the female being rather larger; both sexes are almost exactly similar in form and colours. The cephalo-thorax is broad-oval, and its surface punctuose; the fore part (or caput) full, prominent, bluff, and rounded, but without any distinct elevation; its colour is dark brownish-black. The legs are short and, with the palpi, are yellow-brown, with a strong chestnut-red tinge. The abdomen is black, often tinged with deep chestnut-brown; it is of a very short oval, almost circular and flattened form, projecting greatly over the base of the cephalo-thorax; the upper side, in the male, is covered with a kind of coriaceous integument thickly beset with minute impressed dots or punctures, and presents a shield-like appearance. The palpi are short, and the digital joint and palpal organs of moderate size, the latter complex. The eyes are similar in position to those of *Neriene*, and the height of the clypeus is equal to half that of the facial space. This, and several of the following species, can hardly be distinguished from *Neriene*, as at present characterized. I have, however, left them for the present (for reasons before mentioned) in the systematic position here assigned to them.

This little spider is not rare among moss and at heather roots at Bloxworth, and in other localities, in spring and early summer, when they are adult. It has occurred also in Scotland and North Wales.

## WALCKENAERA BREVIPES.

*WALCKENAERA BREVIPES*, *Westring*, Aran. Suec. p. 294.

„ „ *Cambr.*, Trans. Linn. Soc. xxviii., p.  
454, pl. xxxv., No. 28.

This spider is nearly allied to *Walckenaera brevis* *Wid.*, which it

resembles very closely in form, colours, and other general characters. It is, however, smaller, the male measuring less than 3-4ths of a line in length, *i.e.*, about 1-17th of an inch; and the *height of the clypeus is much greater*, being equal to two-thirds of that of the facial space; this last character serves to distinguish it readily. The palpi and palpal organs of the male differ slightly also in structure.

Found at Bloxworth at the same season of the year, and in the same situations as *W. brevis*, and also received from Scotland.

#### WALCKENAERA SCABROSA.

WALCKENAERA SCABROSA, *Cambr.*, Trans. Linn. Soc. xxvii., p. 463, pl. 57, No. 38.

This is also a very near ally of *Walckenaera brevis* Wid.; it may be easily distinguished by its larger size—the male measuring 1-14th of an inch in length, and the female 1-11th.

In colour, form, and general structure it is very similar to both the foregoing species. The height of the clypeus is much greater than that of *Walckenaera brevis*, being very slightly less (proportionately) than that of *Walckenaera brevipes*. The much larger size of the digital joint of the male palpus, and the more highly developed spiny processes of the palpal organs are also very strong distinguishing characters, and will enable the collector to separate it easily from both the foregoing species.

Found, but very rarely, at Bloxworth Rectory; in eighteen years I have met with it only on two or three occasions.

#### WALCKENAERA PRÆCOX.

WALCKENAERA PRÆCOX, *Cambr.*, Trans. Linn. Soc. xxviii., p. 549, pl. 46, fig. 19.

The length of the adult male is rather less than 1-16th of an inch.

The whole of the fore part of the spider is yellow-brown, excepting the legs and palpi, which are of a clearer and paler



colour. The cephalo-thorax is something like that of *Walckenaera brevipes* Westr., but the general shape is less short, and not nearly so circular; the caput is also less massive; its colours however, as well as other characters (especially a long, narrow, deepish, longitudinal indentation running backwards from each of the hind lateral eyes), will most readily distinguish it from either of the foregoing spiders. The palpi are short; the radial apophysis is small, slender, prominent, and pointed, and projects from the fore extremity of the joint slightly towards the inner side; the palpal organs are simple.

A single example only, found by my nephew, Frederick P. Cambridge, among grass on the lawn at Bloxworth Rectory, in March, 1872.

#### WALCKENAERA SUBITANEA.

*ERIGONE SUBITANEA*, Cambr., Ann. and Mag. N.H., s. 4, vol. 16, p. 249, pl. 8, fig. 7.

This very minute spider is very nearly allied to *Walckenaera præcox*, Cambr., it is, however, smaller, the adult male measuring no more than 1-23rd of an inch in length.

The curve of the hinder row of eyes is also less strong, and the height of the clypeus is, as nearly as possibly, equal to half that of the facial space, while in *Walckenaera præcox* it is less than half. The occiput (in profile) is also more gibbous, and the radial apophysis is far less prominent. The eyes of the hinder row are equidistant from each other, while those of the hind-central pair of *Walckenaera præcox* are distinctly nearer to each other than each is to the lateral eye next to it. A nearly similar indentation runs backward from each hind-lateral eye, and in other respects also it bears close resemblance to the last mentioned spider.

A single example, found in May 1874 among decayed wood in an outhouse at Bloxworth Rectory, is as yet, the only recorded instance, of its occurrence.

## WALCKENAERA DICEROS.

WALCKENAERA DICEROS, *Cambr.*, Trans. Linn. Soc. xxvii., p. 454,  
pl. 57, No. 39.

This very remarkable and distinct little spider is the smallest yet known of the order *Araneidea*, measuring no more than 1-25th of an inch in length.

The fore part of the cephalo-thorax is broad and bluff, but has no distinct elevation; two little, sharply bent, horn-like, black processes, not far from each other in a transverse direction, issue from small tubercles near the middle of the area enclosed by the four pairs of eyes; these horns are apparently composed of several pairs of confluent black bristles; and from behind each lateral pair of eyes a long, deep, indentation runs obliquely backwards. The cephalo-thorax is pale yellow-brown with a narrow black margin. The legs and palpi are tinged with reddish, and the abdomen is dull brownish-black. The radial joint of the palpus has, in front on its inner side, a long prominent projection the extremity of which is rather obliquely truncated; and the palpal organs have a strong black spine curved round their fore extremity in a circular form.

Very rare; two examples of each sex, found among moss in woods at Bloxworth, are all that I have met with during fourteen years, in spite of many a long and wearisome search for it.

## WALCKENAERA SAXICOLA.

WALCKENAERA SAXICOLA, *Cambr.*, Ann. and Mag. N.H., June, 1861, and *Blackw.*, Spid. Great Brit. and Irel., p. 311, pl. xxi, fig. 226.

The adult male measures rather less than 1 line in length.

The cephalo-thorax is of a dark brown colour, the legs and palpi pale yellowish-brown, with the tibiæ of the first and second pairs dark brown, and the abdomen brownish-black. The upper part of the caput is slightly and obtusely elevated, and behind it is a transverse dip or depression, giving a notched

appearance in the profile line. The palpi are short; the radial joint is broad and strong, and has three apophyses, a rather long slender one curved outwards in front of the digital joint, a strong crescent-shaped one in front, towards the outer side, and a short obtuse one underneath; the digital joint is large, and the palpal organs complex; a black filiform spine is curved in a circular form near their middle, and from within its curvature, a black, slightly cork-screw-shaped spine, enveloped in membrane, is directed obliquely forward and downwards. The female is rather larger than the male, and resembles it in colours, but the caput is less elevated.

Adults of both sexes of this rare spider were found under stones and pieces of rock at Portland, near Pennsylvania Castle, in July, 1860. It is allied to *Walckenaëra antica*, Wid., and also to the next species described.

#### WALCKENAERA ATRO-TIBIALIS.

WALCKENAERA ATRO-TIBIALIS, *Cambr., Ann. and Mag. N.H.*, s. 5, vol. 1, p. 116, pl. 11, fig 3.

The length of the female is one line.

This spider is nearly allied to the foregoing as well as to *Walckenaëra antica*, Wider.; from both, however it may be distinguished by the tibiæ of *all the legs* being black, instead of, as in those species, the tibiæ of the two first pairs only. The transverse depression behind the caput is stronger than that of the female of *Walckenaëra saxicola*; and the colours of the spider are far less vivid than those of *Walckenaëra antica*.

A single example only, found in Berewood near Bloxworth, among moss and dead leaves in June, 1876.

#### WALCKENAERA CUSPIDATA.

WALCKENAERA CUSPIDATA, *Blackw., Spid. Great Brit. and Irel.* p. 290, pl. xx., fig. 204.

The length of the male is rather more than 1 line, and the

female is slightly larger. The colour of the cephalo-thorax is dark reddish-brown, that of the legs and palpi bright yellowish-red, and the abdomen is glossy black. The caput is not distinctly elevated, but the spider may be known at once by a small, black, projecting, horn-like prominence directed forwards from the centre of the ocular area. The horn being a little smaller at its extremity than at its base. The palpi are of tolerable length; the radial joint has two or three strong apophyses at its extremity; the digital joint is large, and the palpal organs complex.

This is a rare spider. I have found it occasionally at Bloxworth, among moss in the spring season. It has also been met with in some other parts of England, as well as in Scotland and North Wales.

#### WALCKENAERA UNICORNIS.

WALCKENAERA UNICORNIS, *Cambr.*, Ann. and Mag. N. H., June, 1861.

„ „ *Blackw.*, Spid. Great Brit. and Irel., p. 293, pl. xx., fig. 207.

In size, colours, general form, and structure, this spider is exceedingly like *Walckenaera cuspidata*, Bl., resembling it also in having a horn-like process between the eyes; but it may be readily distinguished by the different form of the process. In the present spider this is stouter, paler coloured, more vertical, and rather enlarged, as well as cleft, or bifid, at the top. The form also of the radial apophysis differs, as also does the structure of the palpal organs, the palpi having, however, a very similar general appearance, and being about the same size.

This is a rare spider; found occasionally at Bloxworth at the same seasons as *W. cuspidata*, and in similar situations. I have also found it at Lyndhurst, Hampshire, and have received it from some other parts of England.

## WALCKENAERA MONOCEROS.

*THERIDIUM MONOCEROS*, *Wider.*, Zool. Misc. Mus. Senck, p. 230  
(236) pl. xvi., fig. 3.

*WALCKENAERA MONOCEROS*, *Blackw.*, Spid. Great Brit. and Irel.  
p. 291, pl. xx., fig. 205.

The male of this curious little spider measures 1 line in length. The cephalo-thorax is reddish-brown, the legs reddish-yellow, and the abdomen deep yellowish-brown. It is allied to both the fore-going spiders, but may be distinguished without difficulty by the small projecting horn-like process, issuing from the middle of the ocular area, being of a conical form directed rather downwards, and furnished with numerous divergent, and upturned, clavate hairs. The eyes are also smaller and describe an area broader in proportion to its length than in *Walckenaera cuspidata* and *W. unicornis*. The palpi and palpal organs are of peculiar and characteristic structure. The radial joint has a large, curved, tapering apophysis, whose obtuse point is bifid or notched, at its extremity on the inner side, and has its point directed outwards, and in front is a smaller, dark-coloured, spine-like apophysis opposed to the other. The palpal organs are complex, with a strong spine curved in a circular form at their extremity.

I met with several examples (of the male only) of this very rare spider, under stones and pieces of rock near Pennsylvania Castle, Portland, in the autumn of 1859; since which time I have not again found it. I had previously found a single example at Southport, in Lancashire.

## WALCKENAERA PUNCTATA.

*WALCKENAERA PUNCTATA*, *Blackw.*, Spid. Great Brit. and Irel, p.  
295, pl. xx., fig 210.

The male is rather more than 1 line in length, and the female is about 1-10th of an inch.

The cephalo-thorax is of a very dark, slightly reddish, brown colour; the caput has no distinct elevation, but is rather raised,

and prominent in front, and a strongish indentation runs backwards from each lateral pair of eyes. The cephalo-thorax is also pretty thickly marked with roundish punctures on the lateral margins, as well as with rows of the same, converging to the thoracic indentation. The sternum is also similarly punctured. The legs and palpi are of a bright, warm, reddish colour, and the abdomen is glossy black. Two apophyses project from in front of the radial joint; the upper one is strong, pointed, prominent, and conspicuous; the other is smaller, and less prominent. The palpal organs are complex, and well developed.

This very distinct spider occurs, but not very commonly, among moss in damp places, and in swampy grounds among coarse grass and water-weeds, on the heath, at Bloxworth and in the neighbourhood. It has occurred also in Scotland, Yorkshire, and North Wales.

#### WALCKENAERA BIFRONS.

WALCKENAERA BIFRONS, *Blackw.*, Spid. Great Brit. and Irel., p. 302, pl. xxi., fig. 218.

The male measures less than 1 line in length.

The cephalo-thorax is of a deep brown colour, and the caput is perpendicularly elevated into a large, roundish-topped eminence, compressed on the sides, and the summit divided by a longitudinal groove or impression. The eyes are on the front of the prominence, some little way below the summit, and the lower part of the clypeus is very prominent. The legs and palpi are yellowish-red, and the abdomen is brownish-black, and glossy. The radial joint of the palpus is not nearly so long as the cubital, and the apophysis, at its outer extremity, is small, and a little curved. The palpal organs are highly developed and complex, and have a curved, black spine at their fore extremity.

A rare spider, found occasionally at Bloxworth, on low bushes, in woods, in June and July, and received from North Wales and Scotland.

## WALCKENAERA HUMILIS.

WALCKENAERA HUMILIS, *Blackw.*, Spid. Great Brit. and Irel., p. 307, pl. xxi., fig. 223.

The adult male measures 1-18th of an inch in length, and the female about 1-16th.

The whole caput is rather raised, and considerably produced projecting forwards in a slightly upward, sloping direction, but has no distinct elevation; it is broadly truncated at its extremity, and the eyes are placed in four pairs, occupying the whole area of the truncation, which has also some short hairs upon it. The colour of the cephalo-thorax and abdomen is brownish-black; the legs and palpi are red-brown. The cubital is longer than the radial joint, which last is broad and produced over the base of the digital joint, and ends in a bifid form, one limb of the bifid part being curved and pointed, the other much larger, longer, and prominent, with its termination a little enlarged and obtuse. The palpal organs are highly developed and complex.

This rare spider occurs occasionally among moss in woods in early summer at Bloxworth. It seems to be more frequent in the North, where some years ago (at Edinburgh) I found it on several occasions running in bright sunshine, on the pavement of the City, in the months of June and July. It has also occurred in Lancashire.

## WALCKENAERA AFFINITATA.

WALCKENAERA AFFINITATA, *Cambr.*, Trans. Linn. Soc. xxviii, p. 454, pl. 35, No. 30, and Zool. 1863, p. 8, 591.

The length of the male is 1-15th of an inch.

This spider is nearly allied to, but quite distinct from, *Walckenaera humilis*, *Blackw.* The caput is more elevated, more porrected, and less obtuse at its fore extremity, where it is also truncated in a less horizontal line. The palpi and palpal organs bear a general resemblance to those of *Walckenaera humilis*; but are rather more exaggerated in their development.

The cephalo-thorax is dark brown, almost black; the legs and palpi pale yellowish-brown, and the abdomen (which is of a short oval form, and very convex above) is of a deep black-brown colour; the ocular area is furnished with some short, prominent, bristly hairs.

A single example, found at Bloxworth in May, 1861, remained, until lately, unique; but on the 22nd of June, 1877, I found another among star grass, on the sand-hills near the sea, at Studland.

#### WALCKENAERA CRASSICEPS.

ERIGONE CRASSICEPS, *Westr.*, *Aran. Suec.*, p. 231.

The length of the male is about 1-14th or 1-15th of an inch.

This spider is nearly allied to *Walckenaera humilis*, Blackw., and still more closely to the last species, *Walckenaera affinitata*, Cambr. The caput is considerably elevated and prolonged forwards, the extremity being somewhat obliquely truncated, but also undivided, like that of the two species mentioned. The eyes are placed in four pairs, exactly north, south, east, and west, on the truncated part, forming an area about half as broad again as it is long; the far greater height and length of the elevation, as well as the larger size of the spider, distinguish it at once from *Walckenaera humilis*. From *Walckenaera affinitata*, to which it bears a closer resemblance, it may be distinguished by the occiput being more convex, or gibbous, a peculiarity seen at once when looked at in profile, the profile line of the occiput in *Walckenaera affinitata* being of a more even, upward slope. The ocular area also is of less extent in its longitudinal diameter. The clypeus exceeds, in height, the length of the area formed by the fore and hind central pairs of eyes; it retreats considerably, and its profile line is rather incurved. The colour of the cephalo-thorax is dark brown, tinged with olive-green on the caput. The margins are black, and there are some indistinct, radiating, blackish lines on the thoracic region. The legs are slender, and of tolerable length, clothed with short, fine hairs only, and of a dull



yellowish hue. The palpi are moderately long; the cubital joint is clavate and slightly curved; the radial joint is short, but broadly and greatly produced over the digital joint, the greater part of which it conceals. The produced part narrows gradually to a curved, prominent, and obtuse extremity, which is directed upwards, *i.e.*, away from the digital joint. The palpal organs are prominent and complex, with a prominently, curved, black spine, in contact with some semidiaphanous membrane, beneath their fore extremity. The abdomen is black.

A single example of this very interesting spider was found on the lawn at Bloxworth Rectory by my son (Robert Jocelyn), in May, 1877. This is its first record as a British spider. One example only, from Bavaria, had previously come before me.

#### WALCKENAERA CRISTATA.

WALCKENAERA CRISTATA, *Blackw.*, Spid. Great Brit. and Irel., p. 309, pl. xxi., fig. 224.

The male of this very distinct species measures 1 line in length, and the female is rather larger.

The caput is rather elevated, porrected, and divided at its fore extremity into two segments, by a deep, transverse groove, or indentation; each segment is clothed at its summit with numerous hairs meeting over the indentation and forming a crest. The posterior segment bears the hind-central pair of eyes, and the anterior segment the fore-central pair, the lateral pairs being much lower down below the cleft. The falces are placed far back, and are much inclined to the sternum.

The colour of the cephalo-thorax is brownish-black, the legs and palpi red-brown, and the abdomen glossy-black. The palpi are moderately long; the cubital joint is of a clavate form, and the radial joint is broadly and obtusely produced over the base of the digital joint with a curved, spine-like, pointed process, directed outwards from its inner extremity.

This is by no means a common spider, but is found occasionally at Bloxworth, and in the neighbourhood, among lichens on apple

trees, as well as among moss in woods in spring and early summer months. It has also occurred in other parts of England, in Wales, and Scotland.

#### WALCKENAERA PERMIXTA.

WALCKENAERA PERMIXTA, *Cambr.*, Trans. Linn. Soc. xxvii., p. 45, pl. lvii., No. 42.

This spider is allied to *Walckenaera cristata*, Bl., but may easily be distinguished, not only by its smaller size (the male measuring no more than 1-15th of an inch in length), but also by the form of the fore part of the caput, and the structure of the palpi and palpal organs. It is also less deeply and richly coloured.

The cephalo-thorax is of a dark, rich, brown colour, and very glossy. The caput of the male is elevated, and much porrected in an upward, evenly sloping direction; and is also divided into two segments by a deep transverse notch or cleft; but the hinder slope is far less abrupt than in *Walckenaera cristata*, and the two segments (of which the hinder one is much the smallest) are less pointed, and not nearly so conspicuously clothed (at their summits) with hairs. The radial joint is considerably produced in front, at its extremity, over the base of the digital joint, and has a row of three short, black, sharp-pointed spines, near together, and directed outwards not far from its extremity.

Found in some abundance in May, 1863, under decaying rubbish in a swamp at Bloxworth; but I have never met with it since. It has, however, been sent to me from more than one locality in Scotland, and the North of England.

#### WALCKENAERA ANTICA.

THERIDIUM ANTICUM, *Wider.*, Zool. Misc. Mus. Senck. 1, p. 21, pl. xv., fig. 1.

WALCKENAERA ANTICA, *Blackw.*, Spid. Great Brit. and Irel., p. 310, pl. xxi., fig. 225.

The male measures rather more than 1 line in length, and the female about 1-10th of an inch.

The colour of the cephalo-thorax is a deep, shining, black-brown. The legs are bright red-brown, the tibiæ of the first and second pairs being deep black-brown. The abdomen is glossy and black.

The caput of the male is distinctly, but not greatly, elevated; and is divided into two very unequal segments by a deep transverse cleft in front. The hinder segment is greatly the largest, obtuse, and rounded above, and bears on its summit the hind-central pair of eyes. The anterior segment is very small, and has, near its upper part in front, two small, divergent, pale, processes, curving sharply upwards; and near its base are the eyes of the fore-central pair, the lateral pairs being, on either side, a little below the cleft. The palpi of the male are dark reddish-brown; the radial joint is much stronger than the cubital, and has a large, obtuse process, in front, towards the outer side; a longer, slenderer, pointed one towards the inner side, is directed obliquely over the digital joint, and there is a small obtuse one underneath. The palpal organs are complex, and have a fine, circularly curved spine, covered with membrane, at their extremity. The legs of the female are coloured, like those of the male.

Found frequently among rough grass, near the roots of trees, as well as on iron railings, on the lawn at Bloxworth Rectory, in the months of May and June. It has also been met with in North Wales and Scotland.

*Walckenaera antica* is one of the most distinct and remarkable of our indigenous species; and the processes in front of the anterior segment of the caput, with the bright reddish legs and black tibiæ of the first and second pairs, render it one of the easiest to distinguish.

#### WALCKENAERA FUSCIPES.

WALCKENAERA FUSCIPES, *Blackw.*, Spid. Great Brit. and Irel., p. 295, pl. xx., fig. 209.

The length of the male is one line, and the female is rather larger.

The caput is rather, but not greatly, elevated; it is strongly compressed and deeply indented on the sides of the elevation; and its extremity is divided into two segments by a transverse indentation. The hinder segment is blunt pointed and has the hind-lateral pair of eyes near its summit. The anterior segment is large and bluff, in fact representing the ordinary fore part of the caput, and bears the fore-central and two lateral pair of eyes in a transverse line. Each segment is surmounted with a few short fine hairs. The radial joint is produced, at its fore extremity in front, into a strong broad and obtuse apophysis. The digital joint is small, and the palpal organs are not very complex.

The colour of the cephalo-thorax, legs, and palpi is brown, and that of the abdomen brownish-black.

Found not unfrequently among moss in May and June under hedges and in woods at Bloxworth. It has also occurred in North Wales and Scotland.

#### WALCKENAERA IGNOBILIS.

WALCKENAERA IGNOBILIS, *Cambr.*, Trans. Linn. Soc. xxvii., p. 457, pl. 57, No. 42.

The adult male of this very minute spider measures no more than 1-20th of an inch in length.

The caput is slightly and obtusely elevated, chiefly in the occipital region; on the fore part of this elevation are the eyes of the hind-central pair, and lower down in a transverse curved line are those of the other three pairs. At the middle of the lower margin of the clypeus near the insertion of the falces is a somewhat pointed sub-tubercular prominence, by which this species may easily be determined; in the region of the eyes are some short, strong, prominent hairs. Palpi short; the radial joint is shorter than the cubital, and has its fore extremity, on the upper side, produced into a broad and large apophysis, whose outer edge is rather hollow, and its inner extremity narrowed into a long spiny point curving sharply round with its point directed outwards.

The colour of the cephalo-thorax is dark rich brown, that of the legs red-brown, and the abdomen sooty black and glossy.

A single example only, found among moss and dead leaves at Bloxworth, in May, 1863. I have more recently received examples of it from Nürnberg in Bavaria.

#### WALCKENAERA SCABRICULA.

WALCKENAERA SCABRICULA, *Westr. Aran. Suec.*, p. 249.

„ AGGERIS, *Cambr.*, Ann. and Mag. N. H., (3) v., p. 173., and *Blackw.*, Spid. Great Brit. and Irel., p. 301, pl. xxi., fig. 216.

The length of the male is 1-16th of an inch, and the female is rather larger.

The cephalo-thorax is black and glossy; the caput broad, prominent, and obtuse, and the occipital region slightly elevated. The legs and palpi are of a bright yellowish, red-brown colour, and the abdomen glossy black. The eyes are in four pairs, enclosing a space equal in length and width; and an oblong vertical space, between the fore-central and hind-central pairs of eyes, is thickly clothed with hairs; there is also a longitudinal indentation directed backwards from each lateral pair of eyes. The radial joint of the male palpus is stronger than the cubital. The former is produced at its fore extremity on the upper side, and has a sharp apophysis on its outer side. The digital joint is of moderate size, and the palpal organs are prominent and complex.

Very rare, among heath and rough grass in sandy places at Bloxworth, and at Southport, in Lancashire. I have also received it from Scotland.

#### WALCKENAERA PARALLELA.

WALCKENAERA PARALLELA, *Blackw.*, Spid. Great Brit. and Irel., p. 296, pl. xx., fig. 211.

As nearly as possible of the same size as the last species,

the male measuring 1-16th of an inch in length, and the female 1-14th.

The cephalo-thorax is of a dark brown colour, marked with converging rows of small punctures on the sides; the fore part of the caput is obtuse and prominent, and the occiput is distinctly, but not greatly, elevated, the elevation forming a roundish posterior lobe divided from the anterior lobe by a transverse furrow or indentation. The hind-central pair of eyes are placed in front of the hinder lobe, and the fore-central pair near the upper part of the anterior lobe, the lateral pairs being on each side of the fore-central pair. The legs are reddish yellow-brown, and the abdomen is of a somewhat flattened-convex form above, and of a brown-black colour. The cuticle on the upper side has a semi-coriaceous appearance, and is thickly covered with small punctures; four, more conspicuous, impressed spots forming a quadrangular figure near the middle. The palpi of the male are of a brownish hue, the radial joint is smaller than the cubital and has a longish, straight pointed apophysis at its fore extremity on the upper side. The digital joint is rather small, and the palpal organs are complex, with a slender curved spine at their extremity.

Found rarely among moss and dead leaves, &c., in woods; but more abundantly on iron railings, in the spring of 1878, at Bloxworth; also, under pieces of rock at Portland, but rare in the latter locality. The punctured cephalo-thorax and abdomen, with the moderate, but distinct and roundish occipital elevation, enable one to distinguish this little spider without difficulty.

Except in wanting the elevation of the occiput the female resembles the male.

#### WALCKENAERA PUMILA.

WALCKENAERA PUMILA, *Blackw.*, Spid. Great Brit. and Irel., p. 312, pl. xxi., fig. 227.

The male measures 1-15th or 1-14th of an inch in length, and the female rather more. The cephalo-thorax is dark-brown;

the legs and palpi reddish-brown, and the abdomen black. The caput is moderately elevated, the lower part of the clypeus is prominent, and there is a longitudinal indentation running backwards from each lateral pair of eyes. The hind-central pair of eyes are near the fore part of the summit of the elevation, and the other three pairs are placed, in a transverse line, less than half-way between the central pair and the lower margin of the clypeus. The radial joint of the male palpus is produced at its inner extremity, and has a short, pointed apophysis at its upper one; the palpal organs are prominent and complex, with a very long, convoluted, slender, filiform spine, which springs from their fore part; the digital joint is of unusual form, being broad, but deeply, roundly, and broadly impressed, or hollowed out, at its fore extremity, the hinder extremity being quite narrow.

This is a rare spider, but it occurs occasionally among moss, and under stones, as well as on underwood, at Bloxworth, in spring and early summer time. It has also been found in North Wales and Scotland.

#### WALCKENAERA OBSCURA.

WALCKENAERA OBSCURA, *Blackw.*, Spid. Great Brit. and Irel., p. 297, pl. xx., fig. 212.

The length of the male is 1-14th of an inch.

This spider is allied to the last, but is not difficult to be distinguished from it. The cephalo-thorax is of a deep, rich, black-brown colour, the legs dull yellowish red-brown, and the abdomen black. The elevation of the caput is very distinct, though not very high (resembling somewhat that of *Walckenaëra fuscipes*); it is placed more on the occiput than that of *Walckenaëra pumila*, and the longitudinal indentations behind the lateral pairs of eyes are much exaggerated, forming strong, deep, lateral compressions, and thus marking off the elevation more distinctly. The caput is glossy, but the thoracic region is of a dull hue, slightly roughened on the surface, whence it has been named by M. Westring, an

eminent Swedish Araneologist—*Erigone impolita*. The radial joint of the palpus is short, and has only two very small pointed projections from its extremity. The digital joint is large, and has a strong conical prominence near the middle, giving it only a little less unusual form than that of *Walckenaëra pumila*. The palpal organs are prominent, complex and furnished with several spines, of which the most remarkable are a long slender one forming a large bold curve from end to end of the organs, but quite free from them excepting at the extremities, and another shorter, stronger, curved one at their fore extremity.

A very rare spider, of which I have only found three or four examples—among moss in spring time at Bloxworth—during upwards of twenty years. It has also been found in Lancashire and North Wales.

#### WALCKENAERA FLAVIPES.

WALCKENAERA FLAVIPES, *Blackw.*, Spid. Great Brit. and Irel.  
p. 298, pl. xx., fig. 213.

This spider is about the same size as *Walckenaëra pumila*, the male measuring 1-15th of an inch in length, and the female 1-14th; it is also nearly allied to that species, but may be distinguished, not only by the greater elevation of the caput, but also by the absence of the long filiform spine connected with the palpal organs, and the different form of the digital joint.

The cephalo-thorax is brownish-black, the legs and palpi yellow, and the abdomen black.

The caput is moderately elevated, the elevation not being confined so much, as in the last species (*Walckenaëra obscura*) to the occiput, of which the profile of the hinder part is almost vertical; and there is a strong indentation directed backwards from each of the lateral pairs of eyes. The hind-central eyes are placed at the upper side of the fore part of the elevation, and the other three pairs nearly about half-way towards the lower margin of the clypeus. The radial joint of the palpus is considerably produced at its fore extremity, which is directed out-



wards, and is somewhat bifid at its termination. The palpal organs are complex, and have a circularly coiled spine at their extremity.

I found both sexes of this spider in abundance on under-wood at Bloxworth, in July, 1860, but since that time have never met with a single example, although I have frequently searched at the same season and in similar situations, in the same, and in various other neighbouring localities. A very striking instance of that uncertainty of occurrence, with which every entomologist is so familiar in respect to many kinds of insects, and for which any adequate reason has seldom ever yet been given. Mr. Blackwall has met with *Walckenaëra flavipes*, in Lancashire and in North Wales.

The female resembles the male in colours, but (like most others of the group) omits the cephalic elevation.

#### WALCKENAERA HIEMALIS.

WALCKENAERA HIEMALIS, *Blackw.*, Spid. Great Brit. and Irel.  
p. 302, pl. xxi., fig. 217.

The length of the male of this spider is 1-16th of an inch. The caput is obtusely and distinctly but not greatly elevated; the summit of the elevation being divided longitudinally by a small groove; the fore part, just above the insertion of the falces, is considerably prominent, and there is a strong longitudinal indentation behind each lateral pair of eyes. The area enclosed by the four pairs of eyes has numerous short hairs along the middle.

The colour of the cephalo-thorax is deep blackish-brown; the legs are red-brown, and the abdomen black.

The palpi are similar in colour to the legs, the radial joint, however, being dark-brown, and stronger than the cubital; the former joint is greatly and broadly produced at its fore extremity on the upper side, extending considerably over the base of the digital joint; the end of the produced part is curved and directed outwards, and near it is a curved, sharp-pointed spine, which has also an outward direction. The palpal organs are wel

developed and complex, but its spiny processes present no especially remarkable feature.

Found on iron railings, running in sunshine, and also among moss in woods in spring time, at Bloxworth. It has also occurred in some abundance in North Wales, in the month of December.

#### WALCKENAERA LATIFRONS.

WALCKENAERA LATIFRONS, *Cambr.*, Zoologist 1860, p. 8694.

Adult male length 1-14th of an inch.

The caput is distinctly and roundly elevated; the elevation, however, is not excessive, its perpendicular height not exceeding 1-3rd of the whole height of the caput at that part. The upper fore extremity of the caput is considerably prominent, and forms an anterior lobe or segment, divided from the posterior by a strong transverse cleft or indentation. The eyes of the hind-central pair are wide apart, in a transverse line, near the fore part of the summit of the posterior segment; the other three pairs are placed in a transverse line near the extremity of the anterior segment, and behind each lateral pair of eyes is a deep longitudinal indentation. Each segment has some hairs upon it; those on the hinder one are short, bristly, and erect, those on the fore one form a sort of tuft directed backwards over the dividing cleft.

The colour of the cephalo-thorax is deep blackish-brown, that of the legs is a paler and brighter brown, and the abdomen deep sooty black. The cubital joint of the male palpus is larger than the radial, and enlarges gradually to its extremity. The radial joint is strong, and has its fore extremity on the upper side largely and broadly produced over the digital joint. The produced part has an outward direction, and at its extreme outward part is a long, slightly curved, pointed process directed across to the inner side. The palpal organs are prominent and complex, with several curved, corneous, and spiny processes at their extremity.

The female resembles the male in colours and general charac-

wards, and is somewhat bifid at its termination. The palpal organs are complex, and have a circularly coiled spine at their extremity.

I found both sexes of this spider in abundance on under-wood at Bloxworth, in July, 1860, but since that time have never met with a single example, although I have frequently searched at the same season and in similar situations, in the same, and in various other neighbouring localities. A very striking instance of that uncertainty of occurrence, with which every entomologist is so familiar in respect to many kinds of insects, and for which any adequate reason has seldom ever yet been given. Mr. Blackwall has met with *Walckenaëra flavipes*, in Lancashire and in North Wales.

The female resembles the male in colours, but (like most others of the group) omits the cephalic elevation.

#### WALCKENAERA HIEMALIS.

WALCKENAERA HIEMALIS, *Blackw.*, Spid. Great Brit. and Irel.  
p. 302, pl. xxi., fig. 217.

The length of the male of this spider is 1-16th of an inch. The caput is obtusely and distinctly but not greatly elevated; the summit of the elevation being divided longitudinally by a small groove; the fore part, just above the insertion of the falcæ, is considerably prominent, and there is a strong longitudinal indentation behind each lateral pair of eyes. The area enclosed by the four pairs of eyes has numerous short hairs along the middle.

The colour of the cephalo-thorax is deep blackish-brown; the legs are red-brown, and the abdomen black.

The palpi are similar in colour to the legs, the radial joint, however, being dark-brown, and stronger than the cubital; the former joint is greatly and broadly produced at its fore extremity on the upper side, extending considerably over the base of the digital joint; the end of the produced part is curved and directed outwards, and near it is a curved, sharp-pointed spine, which has also an outward direction. The palpal organs are wel

developed and complex, but its spiny processes present no especially remarkable feature.

Found on iron railings, running in sunshine, and also among moss in woods in spring time, at Bloxworth. It has also occurred in some abundance in North Wales, in the month of December.

#### WALCKENAERA LATIFRONS.

WALCKENAERA LATIFRONS, *Cambr.*, Zoologist 1860, p. 8694.

Adult male length 1-14th of an inch.

The caput is distinctly and roundly elevated; the elevation, however, is not excessive, its perpendicular height not exceeding 1-3rd of the whole height of the caput at that part. The upper fore extremity of the caput is considerably prominent, and forms an anterior lobe or segment, divided from the posterior by a strong transverse cleft or indentation. The eyes of the hind-central pair are wide apart, in a transverse line, near the fore part of the summit of the posterior segment; the other three pairs are placed in a transverse line near the extremity of the anterior segment, and behind each lateral pair of eyes is a deep longitudinal indentation. Each segment has some hairs upon it; those on the hinder one are short, bristly, and erect, those on the fore one form a sort of tuft directed backwards over the dividing cleft.

The colour of the cephalo-thorax is deep blackish-brown, that of the legs is a paler and brighter brown, and the abdomen deep sooty black. The cubital joint of the male palpus is larger than the radial, and enlarges gradually to its extremity. The radial joint is strong, and has its fore extremity on the upper side largely and broadly produced over the digital joint. The produced part has an outward direction, and at its extreme outward part is a long, slightly curved, pointed process directed across to the inner side. The palpal organs are prominent and complex, with several curved, corneous, and spiny processes at their extremity.

The female resembles the male in colours and general charac-

ters, but is rather larger and wants the elevation of the caput.

Found once on a wall, as well as more frequently, several years afterwards, during the spring months, among moss and dead leaves in woods, at Bloxworth.

#### WALCKENAERA IMPLANA.

WALCKENAERA IMPLANA, *Cambr.*, Trans. Linn. Soc. xxvii., p. 456, pl. 57, No. 41.

The adult male of this small species measures 1-17th of an inch in length. The caput is considerably elevated, but not so roundly and obtusely as that of *Walckenaëra latifrons*, *Cambr.*, and the anterior slope of the elevation is more nearly vertical; the lower part of the clypeus is considerably and roundly prominent. The eyes are in the ordinary position, but, when looked at from in front, that of the fore-central pair is above the straight line of the two lateral pairs; behind each of these last is a longitudinal indentation.

The colour of the cephalo-thorax is dark black-brown, that of the legs and palpi pale yellow, and of the abdomen glossy black.

The radial joint of the palpus is shorter than the cubital, and has its fore extremity, on the upper side, produced into a long narrowish apophysis directed obliquely outwards, imperfectly bifid at its extremity, and with a sharp-pointed, black, spine-like projection issuing outwards, from beneath, near the bifid part. The palpal organs are prominent and complex, with a conspicuous, duplex, black, coiled spine at their extremity.

A single example found among low plants in underwood at Bloxworth, in July, 1863.

#### WALCKENAERA BECKII.

WALCKENAERA BECKII, *Cambr.*, Trans. Linn. Soc. xxvii., p. 460, pl. 57, No. 44, and xxviii., p. 548.

Length of the adult male 1-16th of an inch.

The caput is but very slightly elevated; the elevation is, however, distinct, and its upper surface is broad and flattish, being

also longitudinally and equally divided by a narrow but distinct groove. A long, strong, longitudinal indentation runs backwards from immediately above and behind each lateral pair of eyes.

The colour of the cephalo-thorax is dark yellowish-brown; that of the legs and palpi yellow; and the abdomen is of a sooty brownish-black hue.

The palpi are slender; the radial joint is shorter, but stronger than the cubital, and its fore extremity is strongly emarginate, forming three short, pointed prominences, two above and one underneath. The palpal organs are prominent, but not very complex; at their extremity is a small, slender, curved, black spine, near which is a prominent semi-transparent mass of membranous substance.

The eyes are very small; those of the hind-central pair are seated, not very far apart, in a transverse line on the upper surface of the elevation of the caput, and are not easy to be seen, except from above.

Several examples were found in an old sewer, which had been closed for thirty years and upwards, at Bloxworth Rectory, in October, 1872. I have also received it from the neighbourhood of London, and from near Dunkeld in Scotland.

#### WALCKENAERA PICINA.

WALCKENAERA PICINA, *Blackw.*, Spid. Great Brit. and Irel. p. 313, pl. xxi., fig. 228.

The adult male is 1-14th of an inch in length.

The caput is moderately and distinctly elevated, being somewhat similar in form though higher than that of *Walckenaera pumila*, *Blackw.*, and *Walckenaera hiemalis*, *Wid.* The fore slope of the elevation follows that of the clypeus, which is considerably prominent at its lower part. The eyes of the hind-central pair are seated at the fore-part of the summit of the elevation, and from behind and above each lateral pair a strong longitudinal indentation runs backwards.

The colour of the cephalo-thorax is brownish-black, that of the legs red-brown, and the abdomen black.

The radial joint of the male palpus is stronger than the cubital, and has its fore extremity, on the upper side, greatly produced into a long, curved, tapering apophysis, whose point is directed outwards in front of the digital joint; this joint is not very large. The palpal organs are prominent and complex; they do not contain any very remarkable processes, but have a short, pointed, black, curved, prominent spine at their extremity.

This is not a rare spider. I have found it, frequently, running in sunshine on bright spring and early summer mornings, on iron railings at Bloxworth, and it has also been found in Lancashire, North Wales, and Scotland. The female resembles the male, but wants the elevation of the caput and is slightly larger.

#### WALCKENAERA PUSILLA.

THERIDION PUSILLUM, *Wid.*, Zool. Misc. Arach. (Mus. Senck.), p. 237, pl. xvi., fig. 9.

WALCKENAERA MINIMA, *Cambr.*, Zoologist 1863, p. 8595.

The male of this minute spider measures no more than 1.22nd of an inch in length.

The caput is moderately elevated, bearing considerable resemblance to that of *Walckenaera picina*, Blackw., though rather less in height, and the front slope is less steep, forming in profile a very obtuse angle with the slope of the clypeus, which is nearly vertical; each side of the elevation, above and behind the lateral pairs of eyes, is broadly and deeply indented, and the eyes of the hind-central pair are seated widely apart at the fore part of its summit.

The colour of the cephalo-thorax is yellowish-brown, that of the legs and palpi yellow-brown tinged with red, and the abdomen is dark sooty brown.

The palpi are short; the radial joint is stronger than the cubital, and is produced at its fore extremity, above and rather on the inner side, into a strong apophysis which curves outwards

over the base of the digital joint, and has a spine-like process beneath its extremity, thus appearing bifid at that part. The radial joint is produced also, but less strongly, on the outer side, its curve being opposed to that of the other apophysis; the extremity of the radial joint appears thus to have had a large, somewhat circular piece taken out of it.

The palpal organs are moderately complex and very prominent. A strong, filiform, red-brown, prominent spine is connected with them, and is very conspicuous near their extremity on the outer side.

I have frequently found this little spider on furze bushes and underwood, as well as among low plants and herbage in woods at Bloxworth and in the neighbourhood.

#### WALCKENAERA ERYTHROPUS.

*ERIGONE ERYTHROPUS*, *Westr.*, *Aran. Suec.* p. 237.

*WALCKENAERA BORREALIS*, *Cambr.*, *Zoologist*, 1862, p. 7967.

The adult male measures 1-12th of an inch in length.

The elevation on the caput is moderate, about the same as that of *Walckenaera pusilla*, *Wid.*, but more massive; and the spider itself is much larger and differs considerably in colours. The indentations on the sides of the elevation, behind the lateral eyes, are also larger, but do not compress the sides so much. The slope of the ocular area, looked at in profile, together with the profile of the clypeus, is nearly the same as that of *Walckenaera pusilla*. The eyes of the fore central pair, looked at from in front, are above the straight line of the lateral pairs.

The cephalo-thorax is of a glossy, brownish-black colour; the legs and palpi yellowish-red, the latter of rather a paler tinge; and the abdomen glossy, deep brownish-black.

The radial joint of the palpus is stronger than the cubital, and has its upper fore extremity, rather on the outer side, produced into a strong apophysis which curves over the base of the digital joint, its bluntish point directed outwards; from within the curvature there issues a rather conspicuous prominent process, also



with an outward direction. The palpal organs are prominent, moderately complex, and have a circularly curved, filiform, black spine at their extremity. These organs, with the digital joint, form a roundish mass, larger than those of *Walckenaëra picina*, Bl., and *Walckenaëra Beckii*, Cambr.

Found among moss in woods, and occasionally on the walls of the Rectory at Bloxworth, but it is a rare spider.

The types of *Walckenaëra borealis* were found on the Pentland Hills, in Scotland, and their identity with Westring's Swedish spider (*Erigone erythropus*) is undoubted.

#### WALCKENAERA TRIFRONS.

WALCKENAERA TRIFRONS, *Cambr.*, Zoologist 1863, p. 8589.

Adult male length 1-11th of an inch.

This species may be recognised, at a glance, by the comparatively small size but great distinctness of the elevation on the caput. The fore part of the caput is large, rounded and prominent, and the eminence standing up with a somewhat forward direction and placed towards the occiput, has a rather tuberculi-form appearance; the height of the elevation is moderate; on its sides, behind each lateral pair of eyes, is a deep longitudinal somewhat oval-shaped indentation. In its general form and character the elevation is not much unlike that of most of the foregoing species. When looked at in profile there is a deep cleft or indentation between the summit of the elevation and the beginning of the clypeus.

The colour of the cephalo-thorax is a shining dark black-brown, that of the legs and palpi bright orange-yellow, and the abdomen jet black.

The radial joint of the palpus is much shorter than the cubital, and has two apophyses at its fore extremity; one on the outer side broad, obtuse, and concave, with a red-brown corneous process issuing from its concavity; the other, towards the inner side, longer, but much slenderer, slightly curved, apparently bifid at its extremity, and directed obliquely outwards over the base of

the digital joint. The palpal organs are moderately complex, and connected with them is a very long, slender, prominent, filiform black spine curved in a circular form, and with its long fine point projecting freely outwards; within the coil of this spine is another short stout curved one.

A single example of this very distinct spider was found running in sunshine on iron railings at Bloxworth Rectory, in May, 1862. Since then I have received it from Lord Walsingham, from Merton Hall, Norfolk, and also from the Cheviot Hills where it has been found by Mr. James Hardy, of Old Cambus.

#### WALCKENAERA NEMORALIS.

WALCKENAERA NEMORALIS, *Blackw.*, Spid. Great Brit. and Irel.,  
p. 315, pl. xxii., fig. 230,

Length of the male 1-16th of an inch.

The elevation of the caput is considerable in height, large and round at its summit, which is broader than the base; its direction is very slightly forwards, and its height is equal to half the whole height of the cephalo-thorax at that point. The fore part of the cephalo-thorax, below the elevation, is prominent, and there is thus a considerable cleft between that and the upper part of the elevation; this is very visible in profile, and, in fact, divides the fore part of the cephalo-thorax into two large segments. A strong longitudinal indentation runs backwards from just above, and behind, each lateral pair eyes.

The radial joint of the male palpus is much shorter than the cubital, and has its fore extremity, above, produced into a rather prominent, blunt-pointed and curved, but not very large, apophysis. Another smaller, pointed, prominent apophysis is on outer side, and a third, still smaller, underneath. The digital joint is small, and the palpal organs are prominent and complex, with a small, fine, curved spine at their extremity.

The colour of the cephalo-thorax is deep brown, that of the legs and palpi brownish yellow, and the abdomen, which has its upper side covered with a coriaceous, thickly punctured shield, is

of a dark blackish yellow-brown hue. The female is rather larger than the male and resembles it in colours, but is wanting both in the elevation of the caput, and the coriaceous covering of the abdomen.

Found occasionally in autumn, and spring, among moss and lichens on apple trees at Bloxworth, as well as in Scotland and North Wales.

In its general form it bears considerable resemblance at first sight to *Walckenaëra bifrons*, Bl., but the present species is smaller and differs in colours. The hind-central pair of eyes also are placed on the fore part of the summit of the elevation of the caput, a long way from the rest, while in *Walckenaëra bifrons* they are seated on the front of it, close above the other eyes.

#### WALCKENAERA LUDICRA.

*WALCKENAERA LUDICRA*, *Camb.*, Ann. and Mag. N. H. 1861, 3rd series, Vol. vii., p. 438.

„ „ *Blackw.*, Spid. Great Brit. and Irel., p. 316, pl. xxii., fig. 231.

Length of the male 1-18th of an inch.

This very distinct species cannot be mistaken for any other as yet known in Great Britain, being of an almost uniform pale dull brownish yellow hue.

The elevation on the caput is strong and high, slightly exceeding half the total height of the caput; it is also strongly inclined backwards; the hinder part is well rounded, the summit also rounded and broader than the base, and the front flattish; the latter slopes in the same line as the clypeus, which is considerably prominent a little way above the lower margin. The colour of the elevation is clouded with brown. The palpus of the male is rather short and slender; the radial joint is much shorter than the cubital, but broader; it has a short, pointed apophysis at the fore extremity on the upper side, and both the outer and under side are rather prominent. The digital joint is not large, and the palpal organs are prominent and complex, with a curved

black spine at their extremity. The eyes are in the usual position, and behind each lateral pair is a small longitudinal indentation.

The female is slightly larger than the male, which it resembles in colour, but wants the elevation on the caput, this part being merely a little more convex than usual.

Found, in some seasons, abundantly, during May and June, on furze bushes when in bloom, in sheltered places on heaths bordering on the woodlands at Bloxworth, and in other similar localities in Dorsetshire as well as in Hampshire.

#### WALCKENAERA ALTIFRONS.

WALCKENAERA ALTIFRONS, *Cambr.*, Zoologist 1863, p. 8593, and Trans. Linn. Soc., pl. xxviii., p. 453, pl. xxxv., No. 33.

The male measures 1-15th of an inch in length.

The elevation on the caput is high, but (owing to the greater height of the normal portion) not quite equal to half the whole height of the facial space; it has, when looked at in profile, a somewhat sub-conical form, rising from the whole area of the caput; but, looked at from in front, the summit (on the highest part of which the hind-lateral pair of eyes are seated) is broader than the base; behind each lateral pair of eyes is a strong, horizontal indentation, and the frontal slope of both the elevated part and the clypeus forms one pretty even line, broken by a slight prominence at the fore-central eyes.

The palpus of the male is moderately long; the radial is about half the length of the cubital joint, and has its fore extremity on the upper side produced into two apophyses, the inner one of which is much the largest and strongest, and ends in a fine point; both are directed obliquely outwards.

The colour of the cephalo-thorax is blackish-brown; that of the legs and palpi are orange-yellow, the latter rather the palest; and the abdomen is black.

Found very rarely on underwood at Bloxworth, in June; and also near Lyndhurst, Hampshire.

The female is rather larger, but resembles the male, excepting in the absence of the elevation of the caput.

#### WALCKENAERA FRONTATA.

SAVIGNIA FRONTATA, *Blackw.*, Lond. and Edin. Phil. Mag., 3rd series, Vol. iii., p. 105.

WALCKENAERA FRONTATA, *Blackw.*, Spid. Great Brit. and Irel., p. 317, pl. xxii., fig. 232.

The length of the male is 1-12th of an inch.

This remarkable species may be easily recognized by the elevation on the caput being placed quite at the extremity of the fore part, and forming, in fact, a kind of sub-conical continuation of it, directed rather forwards, and surmounted by a tuft of hairs. The cephalo-thorax is of unusual length. The eyes of the hind central pair are close together behind the base of the elevation; the lateral pairs are placed on each side of the fore part of the normal portion of the caput, and the fore centrals are on the front of the summit of the elevation; these last are exceedingly difficult to be seen, so much so that for many years it was supposed by Mr. Blackwall to be a six-eyed spider.

The palpus of the male has its radial stronger than the cubital joint, and the fore extremity of the upper side of the former is produced into a curved, tapering apophysis, which ends in a sharp point directed outwards over the base of the digital joint. The palpal organs are prominent and complex, but do not present any very conspicuous processes.

The colour of the cephalo-thorax is brownish-black, that of the legs and palpi reddish-brown, and the abdomen is glossy and black.

The female resembles the male in colours, but is a little larger, and shows no trace of the peculiar formation of the caput observed in the other sex; the fore-central eyes are also easily seen, though smaller and darker than the rest.

Not rare, running on iron railings in sunshine, in May and June, at Bloxworth Rectory. I have also received it from various parts of England, Scotland, and North Wales.

#### WALCKENAERA ACUMINATA.

WALCKENAERA ACUMINATA, *Blackw.*, Spid. Great Brit. and Irel., p. 289, pl. xx., fig. 203.

This fine species is one of the most singular of all yet described, in the form of the fore part of the caput. The fore extremity of this part is elevated into a vertical, slender, stalk-like process, whose height is equal to about two-thirds of the total length of the cephalo-thorax. This curious eminence is a little bent forwards towards the extremity. Two pairs of largish eyes are placed, one pair on each side of a slight enlargement near the middle; the rest of the eyes are on and near the summit, which is enlarged, of a somewhat rounded form, and furnished with a few short strong hairs; the summit is divided by a transverse furrow, into two segments, an upper and a lower one, the latter being the smaller of the two.

The radial joint of the male palpus is much shorter and stronger than the cubital (which is rather long and slightly clavate), and has its fore extremity produced into three apophyses; one on the inner side (the longest of the three) is curved, with its point directed outwards, and a process near its base on the outer side; while the outer one is shorter, stronger, and obtuse. The digital joint is large, and the palpal organs are prominent and complex, with a strong, circularly curved spine, towards their extremity on the outer side.

The colour of the cephalo-thorax is dark, reddish-brown, that of the legs and palpi reddish-yellow, and the abdomen black.

The female is larger than the male, but resembles it in colours. The fore part of the caput is elevated moderately, in a simple acute-conical form, with the eyes closely grouped together on and about its summit.

This remarkable spider is of rare occurrence, among dead

leaves in woods, and among moss and heather at Bloxworth, and Warmwell. I have also received it from Mr. C. W. Dale, of Glanvilles Wootton; and it occurs more abundantly under stones, among moss and short herbage in woods and on wastes in the North, and other parts, of England, as well as in Scotland, and Wales.

### GENUS PACHYGNATHA, *Sund.*

*Cephalo-thorax* large and of almost equal convexity throughout.

*Eyes* in two nearly straight transverse rows, forming a central group of four in a small square, with a lateral pair placed slightly obliquely at some distance on each side.

*Falces* long, very powerful, and divergent.

*Maxille* long, rather broadest, and obliquely truncated on the outer side, at their extremities, and inclined towards the labium.

*Labium* large, of a sub-triangular form, with the apex sometimes rounded.

*Legs* rather long, slender, and entirely devoid of spines. Their relative length is 1.2.4.3.

*Palpi* of the males have the palpal organs of a peculiar and very uniformly similar structure, consisting of a large, more or less globular, corneous lobe with a diversely formed process issuing from its fore part. In this, as well as in the narrow, irregular form of the digital joint, there is a marked similarity to spiders of the *Epeirid* genus *Tetragnatha*, Linn.

This is a small group of brightly-coloured, and prettily marked spiders, some of them ornamented with silvery hues.

Their snare and mode of life are like those of *Theridion*. They may be easily distinguished from *Neriene* and *Walckenaëra* by their gayer colouring; from *Theridion* by the second pair of legs being longer than the fourth; and from the numerous species of *Linyphia* by the absence of spines on the legs; while their form of snare separates them at once from the Family *Epeirides*, to which last, however, they bear several strong structural marks of affinity.

Three species only are as yet known to Britain, and all three are found in Dorsetshire.

# PACHYGNATHA CLERCKII.

PACHYGNATHA CLERCKII, *Sund.*, Vet. Akad. Handl. 1829, p. 208;  
and 1832, p. 258.

„ „ *Blackw.*, Spid. Great Brit. and Irel., p.  
318, pl. xxii., fig. 233.

The length of the male is  $2\frac{3}{4}$  lines.

The cephalo-thorax is of a pale yellowish, red-brown colour, divided longitudinally by a central, and two lateral black stripes; and the oblique indentations between the caput and thorax are also marked by a black line. The falces are of great strength, long, widely divergent, and armed with strong teeth on their inner sides; the fang is long, and has a kind of tooth at the middle of its inner side, the outer side at that part being indented. The legs and palpi are of a pale yellowish hue slightly tinged with brown. The abdomen is brownish-black on the upper side, with a broad, pale, yellowish band down the centre, tapering to a point above the spinners, this band has a longitudinal, central, black line, broken into by several, somewhat angular, small spots or markings; there is also a lateral band, of the same colour as the central one, on each side. The under side is yellowish-brown, with a broad, central, longitudinal, brownish band.

The palpi of the male are long, and the radial is larger than the cubital joint; the digital joint is of a somewhat bifid form, one branch being much larger and stronger than the other. The palpal organs consist of a large globular bulb, with a pointed and somewhat twisted process in front.

The female is larger than the male and less vividly and distinctly marked, but in other respects very nearly resembles it, except in the less development of the falces.

Found, but not abundantly, under stones and among moss and rubbish in woods and damp places at Bloxworth and other



localities in Dorsetshire. It seems to be also generally distributed in England, North Wales, and Scotland.

#### PACHYGNATHA LISTERI.

PACHYGNATHA LISTERI, *Sund.*, Vet. Akad. Handl., 1829, p. 210.

„ „ *Blackw.*, Spid. Great Brit. and Irel. p. 320, pl. xxii., fig. 234.

This spider bears a strong general resemblance to *Pachygnatha Clerckii* in its form and structure, but is much more brightly coloured, and also smaller. The adult male measures about 1-7th of an inch in length. The cephalo-thorax is bright red brown with a longitudinal, central black band, and a very broken, black, submarginal bar on each side. The legs and palpi are yellowish; and the abdomen has, on the upper side, a very broad, dark red-brown, central, longitudinal band, marked with some black markings, as well as some ill-defined white angular markings, along the middle; and on each side of the abdomen is a broad, irregular, yellowish band whose inner margin is nearly white. The palpi of the male are very like those *Pachygnatha Clerckii*.

The female is larger than the male, of a lighter hue, but is, if anything, more distinct in the markings on the upper side of the abdomen.

Occasionally abundant, towards the end of the summer, among underwood at Bloxworth and in the neighbourhood. Mr. C. W. Dale has met with it at Glanville's Wootton; it occurs also in other parts of England, and in North Wales.

#### PACHYGNATHA DEGEERII.

PACHYGNATHA DEGEERII, *Sund.*, Vet. Akad. Handl., 1829, p. 211, and 1832 p. 259.

„ „ *Blackw.*, Spid. Great Brit. and Irel., p. 321, pl. xxii., fig. 235.

This pretty species may be at once distinguished from the two

foregoing by its much smaller size, and generally darker hue. The length of male is about 1-8th of an inch, or rather less. The cephalo-thorax is deep black-brown, and the legs are pale yellowish brown. The abdomen has its upper side almost entirely occupied by a very broad, deep blackish, longitudinal band dentated or sinuous on its outer margins, and with a series of silvery-white, somewhat angular bars along the middle, forming at times a somewhat broken stripe; the sides are also occupied by a white band of silvery lustre. These white parts are, in some examples, of a golden hue; and in others the sides are tinged with red.

The palpi, as well as the falces, are exceedingly similar in form and structure to those of the two preceding species.

The female is larger than the male, and, in general, rather less dark coloured and not so distinctly marked.

An abundant spider, during the greater part of the year, among grass in fields, and in many other situations, as well as on plants and bushes, particularly furze bushes when in bloom.

#### GENUS TAPINOPA, *Westr.* LINYPHIA, *Bl.*, in part.

This genus has been formed by Westring for a single remarkable spider, included by Wider and Blackwall in the genus *Linyphia*. The cephalo-thorax rises considerably before, but this is caused by a sort of thrusting up by the large and powerful falces, not by the really greater height of the caput. The occiput however is a little gibbous.

The eyes form a broadish transverse-oval figure close to the insertion of the falces. Those of the fore-central pair being the largest, and not nearly contiguous to each other.

The legs are rather long, not very strong, and are furnished with hairs and a few erect bristles only. Their relative length is 1.4.2.3. Those of the first pair being distinctly the longest.

The *Maxillæ* are long, strong, straight, of a somewhat broad-oblong form, rather rounded at their extremities; and the *Labium* is semicircular.

The *falces* are long, powerful, perpendicular, and divergent at their extremities, with some long strong teeth in two rows on their inner surface. The fang is long and a little bent at its point.

Three species are described as British, one only having as yet been found in Dorsetshire.

#### TAPINOPA LONGIDENS.

*LENYPHIA LONGIDENS*, *Wider.*, Zool. Misc. Mus. Senck, Bd. i. p. 270. Taf. 18. fig. 5.

„ „ *Blackw.*, Spid. Great Brit. and Irel. p. 227, pl. xvi. fig. 150.

The length of the male is 1-7th of inch.

The cephalo-thorax is of a reddish yellow-brown colour, with a brownish-black band along each side, and the upper part of the caput is ornamented with numerous long black bristles, directed forwards. The legs are of a paler, clearer yellowish hue, hairy, and with a few erect bristles, but no spines. The abdomen is of short-oval form, and considerably convex above; it is of a dull brownish-yellow colour, more or less thickly mottled with small white cretaceous looking spots, and marked on the upper side with two longitudinal rows of large blackish spots or blotches, the rows converging towards the spinners; and on each side is a longitudinal, bent, blackish-brown bar, which joins in, at the hinder extremity, with one of the posterior blotches.

The palpi of the male have the radial and cubital joints both short, and the latter has a long prominent bristle at its fore extremity. The digital joint is large and is considerably produced at its base, the production being curved, with its extremity directed outwards, and notched or bifid.

The palpal organs are prominent and complex.

The female is larger than the male, but resembles it in colours and markings; and connected with the genital aperture there is a prominent, conspicuous, curved process of very large size, with its extremity somewhat coiled or re-curved.

Found, but rarely, among heather and under old turves, on Bloxworth Heath in spring and early autumn. It is also found in other parts of England, as well as in Scotland and Wales.

GENUS LINYPHIA, *Latr.* LINYPHIA, *Blackw.*, in part.,  
+ NERIENE, *Blackw.*, in part., +  
THERIDION, *Blackw.*, in part, +  
BATHYPHANTES, *Menge*, in part, and  
BOLYPHANTES, *Menge*.

The genus *Linyphia* comprises a large assemblage of small, and moderate sized spiders, most of which have the abdomen very convex above (except in some males) and generally ornamented with a distinctive pattern ; but the colours are usually of a sober kind, confined commonly to white, black, and brown of various shades, with different tints of a yellowish hue ; a few species have some richer colouring as *Linyphia peltata*, Wid., *L. hortensis*, Sund., *L. marginata*, C. L. Koch, *L. triangularis*, Clerck., and *L. clathrata*, Sund. In general the *caput* is not specially raised above the thoracic level, though in the males of some species it rises gradually from it, and projects considerably forwards ; and in one, *Linyphia alticeps*, Sund., it is drawn out into a conical point between the eyes.

The *maxilla* are usually straight ; tolerably long and strong ; and either parallel to each other, or a little inclined to the *labium*, which is semicircular or subtriangular.

The *eyes* are of moderate size, placed in two transverse rows, or three groups, generally well removed from the base of the *falces*. A central group of four, forms nearly a square with a pair, the eyes of which are placed obliquely, and close to each other, on either side.

The legs are long, slender, armed with distinct spines of varied length and strength in different species ; their relative length is 1.2.4.3. or 1.4.2.3.

The snares of *Linyphia* consist of a horizontal sheet of web suspended from various points on the upper side, by vertical lines to the different surrounding objects, as the leaves of trees and shrubs or stems of plants, and similarly braced down to other objects underneath. The spider usually lies in wait in an inverted position beneath the horizontal sheet. Numerous lines are spun in all directions above, which serve to entangle flies and other insects, and these, falling down in their efforts to get free, are caught by the horizontal sheet and quickly captured.

The various species of *Linyphia* are found on trees, bushes, shrubs, and herbage, as well as in caverns, crevices, and holes of rocks and walls; also in unused rooms and old buildings, and under stones. Among them are some of our commonest spiders. The beautiful objects so conspicuous on heather, and furze bushes, when covered with dewdrops, on a bright, fresh, early autumnal morning, are mainly the webs of *Linyphia montana*, Clerck. at times the bushes appear to be covered with them as if by magic, scarcely one perhaps having been visible on the previous afternoon; and without doubt almost all have been the product of the previous night's labours.

In distinguishing spiders of this genus from those of other genera of the same family (*Theridiidae*) there will be little difficulty (excepting in one or two groups closely allied to *Neriene*) if the spines on the legs be looked for. Wherever distinct spines are found, there, as a rule (more especially if the legs of the second pair are longer than those of the fourth), we may conclude that we have a *Linyphia*, and not a *Theridion*, or one of any of its allied genera, nor yet a *Neriene*, *Walckenaera*, *Tapinopa*, or *Pachygnatha*.

Sixty-eight species of *Linyphia* have been found in Britain; and of these forty-three have occurred in Dorsetshire.

It is probable that on a revision of this genus (which is much needed) several good genera will be established, including perhaps those, of Herr Menge, mentioned in the synonyms above given.

## LINYPHIA FRENATA.

LINYPHIA FRENATA, *Wider., Blackw.*, Spid. Great Brit. and Irel.  
p. 228, pl. xvi., fig. 151.

The male measures 1-8th of an inch in length.

The cephalo-thorax is of a pale, dull, yellowish hue, with a longitudinal black band on each side, near the lateral margin. The caput is rather elevated and prominent, the summit being rounded and clothed with numerous curved, bristly, black hairs, directed forwards. The legs are long, slender, hairy, armed with erect spines, and of a yellowish-brown colour, with several dull, dark-coloured annuli. The abdomen is exceedingly convex above and projects greatly over the cephalo-thorax; its colour is a pale, reddish-brown, pretty thickly mottled above with white cretaceous looking spots, and along the middle of the hinder half is a series of several angular black lines, the first two or three broken and widely divided at the vertices, being in fact only elongated spots. The sides are marked with some irregular black streaks.

The palpi of the male are like the legs in colour; the radial joint is stronger than the cubital, but both are short, and have some prominent bristles in front; the digital joint is of a somewhat irregular form, and the palpal organs are prominent, complex, and turned outwards. The falces are long, and divergent at their extremity.

The female is larger than the male, resembling it in colours and markings, but wanting the prominent development of the fore part of the caput, and her legs are shorter.

A rare spider among herbage and heather on the sides of earthy ridges and banks in autumn at Bloxworth. Mr. Dale has met with it at Glanvilles Wootton; and it has also been found in Yorkshire.

## LINYPHIA THORACICA.

LINYPHIA THORACICA, *Wid.*, Zool. Misc. Arachn., p. 254 (261),  
pl. xvii., fig. 10.

„ CAUTA, *Blackw.*, Spid. Great Brit. and Irel., p. 220,  
pl. xv., fig. 145.

Length of the male about 2 to 2½ lines.

The caput (of the male) is rather elevated and prominent, the clypeus projects forwards below, and the ocular area has a few prominent bristly hairs. The cephalo-thorax is of a brownish yellow colour strongly suffused with reddish-brown on the fore part; the hinder extremity of the caput is blackish and sends backwards a longitudinal medial black bar, and the lateral margins of the thorax are broadly black. The legs are long and slender; the spines tolerably numerous, and some of them rather long, but easily broken off. The colour of the legs is yellowish, annulated more or less distinctly with blackish-brown; relative length 1.2.4.3.

The palpi of the male are short and slender, except the digital joint which is large and of irregular form. The cubital joint has a long strong bristle projecting from the fore part of its anterior extremity, and the radial (which is greatly produced at its fore extremity) has one on its outer side. The palpal organs are complex, and enormously developed; and the spider may be distinguished at a glance from all its allies by a double-coiled, slender, filiform, black spine, which surrounds the palpal organs with its large and conspicuous orbit.

The abdomen is of a dull brownish-yellow hue, thinly mottled with white spots, and with a very distinctive pattern on the upper side formed by black spots and lines; the latter, on the hinder half, form a longitudinal series of obtuse-angled, diminishing triangles with the apices (which are sometimes defective) directed forwards, and looking like greatly dilated arrow-heads; the sides are also marked with two or three short, oblique, connected black lines or stripes. On the under side are several rather conspicuous white spots, in a small group, just in front of the spinners.

The female is larger than the male, but resembles it in markings and colours, the latter, however, being lighter and less distinct.

This is not an uncommon spider on the trunks of ivy-covered trees, as well as in old wood-stacks and outhouses, at Bloxworth, and in many other localities in Dorset. It is also found in other parts of England, Ireland, Scotland, and Wales.

### LINYPHIA LEPROSA.

LINYPHIA LEPROSA, *Ohlert*, Die. Aran. d. Prov. Preuss., p. 47.

„ CONFUSA, *Camb.*, Trans. Linn. Soc. xxvii., p. 427, pl. 55, No. 21, a.b.c.d.e.f.g.

The adult male measures about 1-7th of an inch in length.

The cephalo-thorax is of a dark brownish colour, tinged with yellow; the legs are slender, armed with numerous long and conspicuous spines, of a brownish-yellow hue tinged with red-brown, and occasionally faintly annulated with blackish-brown. The *abdomen* of the female is particularly convex above, and projects over the base of the cephalo-thorax, that of the male is slenderer; it is of a dull, shining, pale yellowish-brown colour on the upper side, freckled with small whitish spots; and along the middle is a series of angular blackish lines, whose ends, in the female, often form a spot or blotch. These angular lines are strongest in the male, and the paler intervals then form a series of curved or slightly angular lines. The sides are brown-black, and are marked with a longitudinal curved yellowish-white line, sometimes broken off in the middle, the hinder part passing over the abdomen, some little distance above the spinners, and meeting the corresponding lateral line on the opposite side; the under side is also brownish-black.

The palpi are short and slender; the cubital joint has a long, slightly bent, tapering, finely pointed, prominent bristle at the fore extremity on the upper side. This joint, as well as the radial, is very short, but the latter is the stronger. The digital joint is rather large, and has a strongish conical prominence at



its base on the inner side, and another, much smaller, one on the outer side; the palpal organs are greatly developed and complex, with various curiously-shaped prominent corneous processes.

The female is larger than the male, and is remarkable for the large size and form of the process connected with the genital aperture. This process is a notable feature in the female structure of many spiders, but especially in that of females of the genus *Linyphia*, and affords excellent characters for the distinction of the species.

*Linyphia leprosa* is one of our most abundant spiders, being found plentifully nearly all the year round at Bloxworth, and in other localities, in outbuildings of all kinds, lofts, faggot ricks, wood stacks, holes and crevices in walls and trees, especially where the latter are thickly overgrown with ivy. It appears to be equally common throughout the south of England, and is also found in Scotland. Different individuals (of both sexes) often vary considerably in size, some being both larger and smaller than the dimensions from above.

#### LINYPHIA ZEBRINA.

BATHYPHANTES ZEBRINUS, *Menge*, Preuss. Spinn. I., p. 113, pl. 20, Tab. 39.

The length of the male is 1-9th of an inch, and the female is rather larger.

This spider is closely allied to *Linyphia leprosa* OHL, and resembles it very nearly both in colours and markings. It is, however, generally rather smaller; though as *Linyphia leprosa* varies considerably in size, probably the present species would be found to vary also if a number of examples were compared together. Among other distinguishing characters the following appear to be the chief, and are amply sufficient for the easy determination of the species. The *legs*, which are occasionally annulated in *Linyphia leprosa*, have no trace of annulation in any one of about twenty examples examined. The *palpi* (of the male), on the subital

joint of which, in *Linyphia leprosa*, is a long, tapering, slightly sinuous, prominent bristle, has only a short, very slender, and inconspicuous one. The radial joint is rather more produced on the upper side. The digital joint is smaller, and has no pointed prominence at its base, where there is a very marked and characteristic one in *Linyphia leprosa*. The palpal organs are of quite a different structure, far less prominent, less complex, and with less strong processes.

The eyes are rather large, seated on black spots, and more closely grouped together than in *L. leprosa*. The posterior row is straight, and the interval between the eyes of the hind-central pair is greater than that between each and the lateral eye next to it.

With respect to the markings on the abdomen, these are exceedingly similar in the two species; there are, however, in the present spider scarcely any white spots on the dull yellowish-brown ground colour; and the dark-brown, transverse, angular bars are usually more distinct and perfect, and uniform in size throughout, *i.e.*, their extremities do not terminate (as frequently do those of *Linyphia leprosa*) in a diffused patch or blotch. The process connected with the genital aperture of the female is smaller and much less prominent.

Examples of both sexes of this spider have been in my possession for several years past; some of them were found in woods and shrubberies at Bloxworth; others were received from the North of England and from Scotland, and were seen at once to be, though remarkably similar in many respects to *Linyphia leprosa*, yet different in several points. These examples were, however, shortly afterwards mislaid, and it is only very lately that they have come to light, and are now for the first time recorded as British.

It is probable that *Linyphia zebra* is a tolerably abundant spider in this neighbourhood. At the beginning of February in the present year I found three examples of it, dead, inside an empty bottle, which had been thrown into the shrubbery; these

spiders (with several others of different species) had crawled into the open mouth of the bottle, evidently thinking to find a safe place of shelter, but, on the contrary, it proved a prison, from which there was scarcely a chance of escape, owing to the form of the neck and shoulders of the bottle.

### LINYPHIA MINUTA.

LINYPHIA MINUTA, *Blackw.*, Spid. Great Brit. and Irel., p. 218,  
pl. xv., fig. 144.

This spider so nearly resembles *Linyphia leprosa* Ohl. in size, colours and markings, that any detailed description of it is quite unnecessary. It will therefore suffice to note one or two differing characters by which the present spider may be readily distinguished from *Linyphia leprosa*, and which will also distinguish it from *Linyphia zebrina*, Menge.

In the present species the occasional faint annulation of the legs of *Linyphia leprosa* is replaced by constant and very distinct annuli. This difference applies to both sexes. In the male the tapering pointed bent bristle at the fore extremity of the upper side of the cubital joint is represented by a strong spine-like bristle issuing from a minute tubercle, slightly sinuous, of equal size throughout, and obtuse at its end, or, rather, terminating suddenly in a point.

The female is more difficult to distinguish, excepting by the distinct annulation of the legs. The process, however, connected with the genital aperture differs a little in its structure.

This spider is a rare one at Bloxworth, though met with in situations similar to those in which *Linyphia leprosa* is found, and I have not yet met with it elsewhere in Dorsetshire.

In the north of England the present is a common spider, while *L. leprosa* is a much scarcer one. It is also found in Scotland and Wales.

## LINYPHIA TENEBRICOLA.

LINYPHIA TENEBRICOLA, *Wider.*, Zool. Misc. Mus. Senck., p. 260  
(266), pl. xviii., fig. 2.

„ TENUIS, *Blackw.*, Spid. Great Brit. and Irel., p. 230,  
pl. xvi., fig. 152.

„ TERRICOLA, *Blackw.*, l.c., p. 231, pl. xvi., fig. 153.

A very variable spider both in size as well as in depth and distinctness of markings. The male measures from 1-10th to 1-12th of an inch in length. It is of very slender form. The cephalothorax is of a more or less dark yellowish-brown colour; the legs and palpi are yellow tinged with brown; the latter however have the radial and digital joints (with the palpal organs) of a black-brown colour. The spines on the legs are nearly erect and tolerably conspicuous. The abdomen is of a dull yellow-brown colour above, more or less distinctly mottled with small white spots, and with a longitudinal central series of angular black lines whose ends generally form roundish blotches; the sides and underside are black, and the former have each a horizontal, curved, whitish-yellow line meeting each other just above the spinners; this line is frequently interrupted in the middle, and often represented by two mere spots or blotches. The cubital and radial joints of the palpi are short, the latter the strongest, and furnished with a thin tuft of prominent bristly hairs on the foreside, the extremity of which is rather prominent. The digital joint and palpal organs form a roundish mass of moderate size; the latter are prominent and complex.

The varieties of this little spider are very numerous; some males have the abdomen almost black, excepting a marginal whitish line round the fore part, and a lateral longitudinal yellowish-white line; in others the white speckling predominates in both sexes, and the black angular lines on the upper side, terminating on each side in black blotches, are very conspicuous; in others again the lateral white line is broken off in the middle, and in some (as above remarked) it consists of merely two elongate spots.

The darker specimens constitute *Linyphia tenuis*, Blackw., the paler ones *Linyphia terricola*, Blackw. The female resembles the male in colours and markings, but the abdomen is very convex above, and projects over the base of the cephalo-thorax, and is usually more distinctly marked than that of the male.

Excepting in being very much smaller and brighter coloured *Linyphia tenebricola* bears a very near general resemblance to *Linyphia leprosa*, Ohl.; while, however, the latter spider is seldom found excepting in old buildings, wood stacks, crevices, under blocks of stone, and other similar places of shelter, *Linyphia tenebricola* is never found in such situations, but is one of our commonest spiders among grass and other herbage in most localities in England. It is also met with in Ireland, Scotland, and Wales. The immature examples are frequent aeronauts, and sometimes the adult males also, doubtless contributing considerably to the gossamer lines seen on fine days in spring and autumn. The adult males may also often be found during the whole of the summer, running actively on the surface of the bare ground, as well as on iron railings, palings, and many other objects, by which they are arrested in their aerial excursions.

#### LINYPHIA FREDERICI, sp. n.

Adult male, length scarcely more than 2-3rds of a line.

The *cephalo-thorax* is yellow-brown with a distinct broadish black marginal line, and some irregular, converging lines on the sides of a more dusky hue; the occiput also has a somewhat hexagonal, central, dusky patch emitting a fine black line from the middle of both its anterior and posterior extremities, and from each eye of the hind-central pair a short blackish streak runs backwards. The thoracic region is rather gibbous, and although (when looked at in profile) its summit is not much raised above that of the ocular area, there is a considerable depression between those two points.

The *eyes* are of moderate size, and occupy the whole width of the fore part of the caput. The interval between those of the hind-central pair is scarcely an eye's diameter, while that which separates each of them from the lateral eye next to it is less; those of the fore-central pair are nearly, if not quite, contiguous to each other. The ocular area is but slightly prominent; and the height of the clypeus is considerably less than half that of the facial space.

The *legs* are tolerably long, slender, 1.4.2.3, and of a pale yellow-brown colour. They are furnished with hairs, and have a long slender spine on each of the genual joints, with two others in a longitudinal line on the upper side of each of the tibiae.

The *palpi* are short, and similar to the legs in colour. The radial is stronger than the cubital joint, and is a little spreading at its extremity. The cubital has a short fine bristle directed forwards from its fore part. The digital joint is small with a lobe on its outer side. The palpal organs are rather complex, and have a strongish, and rather long, curved process projecting downwards near their outer side.

The *falces* are moderately long, rather weak, straight, and a little directed backwards. Their colour is like that of the cephalo-thorax.

The *sternum* is of a short heart-shape, considerably convex, and of a dark blackish-brown hue.

The *abdomen* is small and oviform; its colour is black, freckled with minute yellow-brown points, probably not discernible except when in spirit of wine. The hinder part, on the upper side, shews a series of some rather conspicuous transverse folds in the integument. Two others, corresponding to the ordinary transverse curved or angular lines, even more conspicuous, are also visible underneath, a little way from the spinners. The significance of these folds has been before remarked upon.

A single example of this spider was found among dead leaves at Warmwell, near Dorchester, in the spring of 1875, by my nephew, Frederick O. P. Cambridge.

## LINYPHIA OBSCURA.

LINYPHIA OBSCURA, *Blackw.*, Spid. Great Brit. and Irel., 244, pl.

xvii., fig. 162.

Length of the adult male 1-12th of an inch).

This spider is nearly allied to the *Linyphia tenebricola*, Wid., which it also resembles in the general pattern on the abdomen; it may, however, be easily distinguished if the following differences be carefully noted. The cephalo-thorax is much darker, being of a dark brown hue. The cubital joint of the male palpus has a much longer, and stronger prominent bristle on its anterior side. The digital joint has a conspicuous and prominent, sharply conical, slightly curved, horn-like spur at its base; and the palpal organs are more prominent, comprising several conspicuous and projecting processes. The legs also are of a brighter colour, being yellow, tinged with orange-red, and the spines are stronger and more erect. The abdomen of the male is often of an almost uniform dark blackish hue, with scarcely any pattern visible; these examples are probably those which have been some little time adult; younger ones have the central longitudinal series of angular black lines preceded by a somewhat cruciform, black marking formed by the coalition of a short longitudinal bar with a transverse angular one. The lateral, whitish, horizontal, line is stronger than that in *Linyphia tenebricola*, and is lower down on the side, leaving above it, towards the fore extremity, a large, somewhat quadrate, oblong black patch. This (especially in females) is a very conspicuous and striking character.

The whole spider is of a less slender build than *Linyphia tenebricola*; and the female resembles the male, but is larger and has a less frequent tendency to obscuration of the abdominal markings.

This is a rare spider on low plants and underwood at Bloxworth, but is more frequent in Scotland. I have also received

it from near Gloucester; and it has been met with in North Wales.

#### LINYPHIA VARIEGATA.

*NERIENE VARIEGATA*, *Blackw.*, Spid. Great Brit. and Irel., p. 282, pl. xix., fig. 195.

The male measures from 1-12th to 1-13th of an inch in length.

The cephalo-thorax is yellow, with a slender marginal black line, and a central longitudinal, rather variable, black stripe, which widens from the thorax to a little behind the eyes, where it terminates; and occasionally there are some short, lateral, converging, blackish lines in the thoracic region. The legs are yellow, annulated with black, and the abdomen is yellowish, with a few small white spots above and on the sides. On the fore part of the upper side is a conspicuous black marking, sometimes rather cruciform, sometimes arrow-headed, followed by a row of black spots on each side of the medial line, terminating with two or three curved, or subangular, black lines above the spinners. The black spots on either side are also occasionally united in pairs by slender angular lines; but these are usually obsolete. The sides are marked and streaked with black.

The spines on the legs are distinct, though not very strong. At the fore extremity of the upper side of the cubital joint of the male palpus is a very long, projecting, somewhat spine-like black bristle. The digital joint is rather large, and has a large lobe on its outer side, and a prominent, but not very large, process at its base. The palpal organs are prominent and complex. The female is rather larger, but resembles the male in colour and markings.

This pretty little spider is rather rare in spring, late summer, and autumn, among long grass and herbage on waste lands, and in sandy-heath situations at Bloxworth. It is very abundant near Southport, in Lancashire; and has been met with in Yorkshire, North Wales, and Scotland.



## LINYPHIA ALACRIS.

*LINYPHIA ALACRIS*, *Blackw.*, Spid. Great Brit. and Irel., p. 235,  
pl. xvii., fig. 157.

The male measures 1-11th of an inch in length.

This spider is nearly allied to *Linyphia tenebricola*, Wid., but is larger and differs in the pattern on the abdomen, as well as in the structure of the palpal organs; the palpi being also much larger.

The cephalo-thorax is brownish-yellow, with dusky margins. The legs are long, slender, yellow, and conspicuously spinous. The palpi are also long, slender, and similar to the legs in colour. The radial and cubital joints are short; the former is the stronger, and from its base in front issues a long, tapering, prominent bristle, while a similar, but longer one projects from the fore extremity in front of the other. The palpal organs are complex and prominent, the digital joint being of rather an irregular form. The abdomen is yellowish-brown, speckled with white spots, and along the middle of the upper side is a series of angular black bars, whose fine extremities frequently reach the sides, which are black; each side being marked with a longitudinal, curved, whitish-yellow line; the two lines uniting above the spinners. The two foremost of the central angular bars are much stronger than the rest, and sometimes form triangles running into each other; and in other examples, when the extremities of the angular lines are shortened, a narrow longitudinal dentated band, followed by two or three angular lines, is all the pattern that remains. The under side is black-brown.

The processes of the palpal organs of the male are more prominent and conspicuous than those of *Linyphia tenebricola*. The female is larger than the male, and generally has the pattern on the abdomen more perfect and distinct than that of the male; and the genital process is prominent and conspicuous.

*Linyphia alacris* is a rather rare spider among moss, low plants, and herbage in open places in woods, at Bloxworth, in May and

June; but appears to be frequent in many other localities, both in England and Scotland.

#### LINYPHIA CIRCUMCINCTA.

*LINYPHIA CIRCUMCINCTA*, *Cambr.*, Trans. Linn. Soc. xxvii., p. 423.

Length of the adult female, 2 lines.

The cephalo-thorax is pale dull yellowish, with a longitudinal central black line, bifid at its fore extremity, and some convergent dusky lines on the sides. The eyes are on black, slightly tuberculate spots. The legs are of a clearer yellow than the cephalo-thorax, and the spines are rather short and not very strong. Their relative length is 1.4.2.3. The abdomen is very convex above, especially at the fore part, which projects considerably over the base of the cephalo-thorax. The upper side is white, with a central, longitudinal, brown band, tapering to a mere line on the hinder part. On each side of this band and parallel to it, is a row of brown spots, varying in size and distinctness in different examples. These spots are generally united in pairs, by very fine dark, angular lines, whose apices join in with the central band. The sides are dark-brown, marked with a conspicuous, horizontal, straight, white band, which runs round above the spinners without interruption, and thus divides the abdomen into two parts, an upper and a lower one. The under side is also dark brown, marked with white spots and curved lines, the spinners being engirt with a zone of seven or eight well-defined, white spots, forming a horse-shoe, whose open side is in front.

A few examples of this spider were found among coarse grass and sedge, in a swamp, at Bloxworth, in May, 1863, but I have never met with it since.

#### LINYPHIA SETOSA.

*LINYPHIA SETOSA*, *Cambr.*, Zoologist 1863, p. 8578.

The adult male of this very distinct and rare spider measures 1-10th of an inch in length.

The caput is rather raised and prominent before, and has, at its summit, a tuft of curved, strong, bristly hairs, directed forwards. The colour of the cephalo-thorax is brownish-yellow, rather clouded with brown towards the margins; the ocular area is black. The clypeus is high, and prominent just above the falces. The legs are long, rather slender, of a brownish-yellow colour, and the spines are moderately long and strong; the relative length is 1.2.4.3. The palpi are short, slender, and similar to the legs in colour. The cubital and radial joints are short; the latter is the strongest, and has a tuft of strongish, bristly hairs in front, the former has a very long, tapering bristle, directed forwards from its fore extremity. The digital joint is of an irregular form, with a prominent lobe on the outer side, and a short, curved, conical prominence at its base on the inner side. The palpal organs are exceedingly prominent and complex. A dark red-brown, curved process projects from their base over the base of the digital joint, and was mistaken, at first, for a prominence, issuing from that joint. There are other conspicuous spines and processes, the most conspicuous being a large one projecting outwards from near the extremity of the palpal organs.

The falces are moderately long and strong, and divergent at their extremities.

The abdomen is of a pale, dull, yellowish-brown colour above, with a longitudinal, central series of largish, angular, black-brown bars, occupying nearly all the upper side; the first two are often stronger than the rest, and almost confluent, forming a large, irregular patch. The sides, the part just above the spinners, and the underside, are black-brown.

The female is rather larger and darker than the male. All the angular bars along the middle of the upper side of the abdomen are more or less confluent, and the sides have a broken line of indistinct, yellowish-brown markings along their lower part.

A single example of each sex, found among heather, at Bloxworth, in May, 1862, remained until recently, the only known specimens.

I have since met with several examples of both sexes (at the end of September, 1878), among rushes and sedge, in a swamp, near Bloxworth.

#### LINYPHIA SOCIALIS.

LINYPHIA SOCIALIS, *Sund., Blackw., Spid.* Great Brit. and Irel., p. 222, pl. xvi., fig. 747.

The male measures about 1-7th of an inch in length.

The caput of the male is rather elevated and prominent before. The cephalo-thorax is yellow-brown, with black margins, and a central, narrow, longitudinal, black bar bifid at its fore extremity. The sides also are marked with short converging, somewhat elongate, triangular black spots, indicating the normal converging grooves.

The falces are long, divergent at their extremities, and have a few strong spine-like bristles in front.

The legs are long, slender, of a pale yellowish colour, annulated with brownish-black. Their relative length is 1.2.4.3. The palpi of the male are yellowish, and of moderate length; the cubital and radial joints are short, the latter is the strongest and very convex on its outer side; the digital joint has a prominent lobe on its outer side, and a deep red-brown, pointed, curved process at its base directed outwards. The palpal organs are complex, with various prominent corneous processes, of which the most conspicuous is a large curved one, with one obtuse end pointed upwards above the base of the digital joint, and the other end projecting prominently outwards and strongly cleft, or of a somewhat bifid form.

The abdomen is of a dull yellowish-green hue on the upper side, thickly speckled with small white spots, and has a longitudinal, central series of angular brown bars, the extremities of which are often considerably expanded; the fore extremity is engirt, rather underneath, with a strong black band, which extends about half way along each side, and has two or more white spots placed in a transverse line at the middle part; from near each hinder extremity of this band an oblique bar or strong line

runs forwards and upwards; and the hinder extremity on each side is followed towards the spinners by two oblique, more or less long and perfect, black stripes.

The female closely resembles the male in colours and markings.

The angular bars on the upper side are so broad, well defined, and near together that the intermediate spaces might be correctly described as greenish yellow-white, angular lines on a brown ground.

This very distinct and pretty spider is not rare on the trunks of Scotch fir trees near Bloxworth, spinning its snare among the rough bark. It is also found in Scotland.

#### LINYPHIA LUTEOLA.

LINYPHIA LUTEOLA, *Blackw.*, Lond. and Edin. Phil. Mag., 3rd ser., iii., p. 192.

„ ALTICEPS, *Blackw.*, Spid. Great Brit. and Irel. p. 226, pl. xvi., fig. 149.

The length of the male is about 1-6th to 1-7th of an inch. The caput is considerably (but gradually) elevated, and prominent, its fore part being of a somewhat truncated or bluntish-conical form, and its extremity is furnished with many strong, black bristles. The colour of the cephalo-thorax is pale straw yellow, with a black margin, and a rather fine, longitudinal, central line. The legs are long, slender, similar to the cephalo-thorax in colour, and the spines are moderately strong and conspicuous; their relative length is 1.2.4.3. The palpi, of the male, are short, the humeral joint is strong, the cubital and radial joints are about equal in length, and at the fore end of the upper side of the former is a longish, strong, slightly bent spine-like bristle of equal strength throughout, furnished with small projecting points underneath, somewhat bifid at the extremity, and pointing downwards and forwards, from a small tubercular protuberance, almost in a line with the radial joint, which it exceeds in length. The digital joint is of moderate size, and the palpal organs are prominent and complex, with various points and processes, but none of a very conspicuous nature. The abdomen

is of a pale dull yellowish hue, more or less mottled with white; on the fore half of the upper side is a longitudinal, central, brown, or at times black-brown, bar generally somewhat dentated. On either side of this bar, towards its hinder part, and converging together above the spinners, are two rows of black spots, varying in size and shape in different examples, and representing the usual angular lines or bars, all the central or angular portions of which are obsolete in this species, excepting occasionally the last two or three. The sides are marked with some black lines and bars, generally a longitudinal horizontal one, and several other oblique ones; these lateral markings are often more or less obsolete, and sometimes run into each other. In some examples the abdominal markings are almost obliterated; the under side is blackish-brown, often marked with two longitudinal, rather converging, lines of white spots.

The female is larger than the male, and its markings are usually more distinct and perfect.

This very distinct spider is found, though rarely, at Bloxworth in late summer and autumn, among rough grass and heather; but is much more abundant in some localities in the North of England; and is also found in Wales. It must not be confounded with its very close ally *Linyphia alticeps*, Sund., which it nearly resembles, being, however, not quite so large, and easily distinguished by the fore extremity of the caput of *L. alticeps*, being drawn out into a distinct, bluntish point between the eyes; the spine-like bristle also on the cubital joint of the male palpus differs. The latter spider has not yet been met with in Dorsetshire.

#### LINYPHIA CRISTATA.

BATHYPHANTES CRISTATUS, *Menge*, Preuss. Spinn. 121, Tab. 46, pl. 22.

LINYPHIA CRISTATA, *Cambr.*, Linn. Trans. xxx., p. 328.

„ EXPLICATA, *Cambr.*, l.c.

„ DECOLOR, *Cambr.*, l.c., xxvii., p. 437, pl. 56, No. 28.

Subsequent repeated and careful examinations have convinced

me that the spiders referred to in the above synonyms are all of the same species.

The adult male measures from 1-12th to 1-10th of an inch in length.

The cephalo-thorax is yellow, sometimes slightly suffused with blackish towards the margins; the ocular region is prominent but not elevated, and the profile below the eyes (*i.e.*, of the clypeus) is very hollow, owing to the prominence of the ocular region and of the lower margin of the clypeus; the legs are long, slender, and yellow; the spines distinct, but not very conspicuous; the falces rather long, divergent, but not very strong; the palpi are similar in colour to the legs; the radial and cubital joints are short, the latter has a not very long, nor strong, black bristle at the fore-extremity of the upper side, and the former is the larger, considerably dilated above at its fore-extremity, and furnished on the upper side with numerous black bristles and hairs. The digital joint is of moderate size, with a lobe on its outer side, and a small, somewhat conical, prominence at its base on the inner side. The palpal organs are prominent and complex; but though characteristic in their structure they do not present any very conspicuously distinctive processes. The abdomen is oviform, and considerably convex above; its colour is dull yellowish, tinged with brown, and sparingly spotted with small white spots; along the middle of the upper side is a series of blackish, transverse, angular lines or bars, the first one or two being incomplete at the apex, and some of them at times having the extremities dilated into an irregular blotch; the sides are blackish, with two oval, or elongate, yellowish-white markings in a horizontal line; the posterior of these markings, on each side, unite over the abdomen above the spinners; the under side is strongly suffused with brownish-black. This description of the abdomen is most uniformly applicable to the female, as the male has the abdominal markings usually more or less obsolete; in other respects the sexes are remarkably similar; the abdomen of the female, however, being much more convex above, and the genital process characteristic.

This spider is nearly allied to *Linyphia tenebricola*, Wid., from which it may easily be distinguished by its stouter form and generally yellower colouring; it is also allied to *Linyphia alacris*, Bl., from which the absence of the central longitudinal dentated band on the abdomen, as well as the hollow profile line of the clypeus, at once distinguish it. It is rather a rare spider among moss, grass, and other low herbage in open places in woods at Bloxworth in the months of April and May. I have also received it from Berwickshire.

#### LINYPHIA PULLATA.

LINYPHIA PULLATA, *Cambr.*, Zool. 1863, p. 8580, and Linn.

Trans. xxviii., p. 446, pl. xxxiv., fig. 12.

The length of the male is 1-10th of an inch.

The cephalo-thorax is of a yellow-brown colour, considerably suffused on the sides and margins with blackish. The caput is neither elevated nor prominent in front. The legs are long, slender, and bright yellow; relative length, 1.2.4.3., not 1.4.2.3., as l. c. Spines moderately strong. The palpi are short; the radial and cubital joints short, the former the stronger, and furnished with some longish, curved, bristly hairs in front, and the latter has a strongish, tapering bristle at its fore extremity. The digital joint is large, and of a somewhat elongate-oval form, with a lobe on its outer side. The palpal organs are tolerably compact, and not very complex. The ordinary curved process at their base, on the outer side, is not very prominent nor conspicuous, though its form is characteristic; and there are two or three corneous, spine-like processes, near their extremity, one of them being of a rather hooked form, and the others also rather bent, but neither of them very prominent nor conspicuous. The falces are long, rather attenuate at their extremities, which are considerably divergent. The abdomen is of a dark, dull, suffused, yellowish-brown colour on the upper side, with a longitudinal central series of obscure black angular bars, of which the extremities are often dilated; the sides and under side are



brownish-black. In some examples the angular bars are stronger and better defined, and the pattern is then most conspicuous, as a yellow-brown one, on a black ground. The original examples on which the species was founded were of this kind.

The sexes resemble each other very nearly in colours and markings, but the abdomen of the female is exceedingly convex above, and in some examples is entirely black, with some dull brownish-yellow markings along the middle of the upper side.

Found in spring on iron railings, and throughout the summer among heather, at Bloxworth, but not in any abundance. It is nearly allied to *Linyphia flacipes*, Blackw.

#### LINYPHIA NIGRINA.

LINYPHIA NIGRINA, *Westr.*, Aran. Suec., p. 132.

„ PULLA, *Blackw.*, Spid. Great Brit. and Irel., p. 234. pl. xvi., fig. 156.

Length of the male about 1-8th of an inch.

This spider is very closely allied to *Linyphia pullata*, Cambr., but is larger, and of a darker hue. The abdomen is brown-black, with a central longitudinal dentated pale band on the upper side, and an obscure pale stripe on each side of the fore extremity. In some examples the central band is broken up into a series of somewhat triangular patches, whose vertices are directed forwards; being in fact the intermediate spaces between the ordinary transverse angular black bars, which have here become the ground colour, and are seldom or never conspicuous as a dark pattern on a light ground, as in *Linyphia pullata* and others. The legs are not quite of so clear a yellow as in that species, and the palpal bulb is larger. The palpal organs also differ in structure, and are furnished, at their extremity, with a coiled, black, filiform spine, within the coil of which appears the prominent point of another spine. The digital joint is

rather large, and has a slender curved process at its base on the outer side, and a largish lobe near its extremity on the inner side.

The female is larger and generally more distinctly marked than the male.

*Linyphia nigrina* is not rare on low plants and herbage, among young underwood, at Bloxworth, and in various other localities in Dorsetshire in the summer and early autumn months. It is also found in other parts of England, as well as in Scotland.

#### LINYPHIA APPROXIMATA.

LINYPHIA APPROXIMATA, *Cambr.*, Linn. Trans. xxvii., p. 424, pl. 55, No. 19.

Length of the male 1-9th of an inch.

This spider is very closely allied to both the foregoing, but may be distinguished from them without difficulty.

The caput is only very slightly raised above the rest of the cephalo-thorax, which is of a yellowish colour, slightly clouded with dusky, and sometimes marked on the sides with converging, indistinct, sooty lines. The legs are dingy yellow, their relative length is 1.2.4.3., and the spines are few, fine, and semi-erect. The palpi are short, the digital joint large, of irregular form, and (including the palpal organs) as long as the whole of the rest of the palpus. These organs are very prominent and complex, with a short, slender, circularly curved spine at their extremity.

The abdomen is nearly black, with a series of strong, angular markings of a pale whitish colour along the middle of the upper side. The vertices of these markings are sometimes obsolete. The female is larger, but resembles the male in colours and markings.

From *Linyphia nigrina* Westr., the present species may be distinguished by the much larger size of the digital joint and palpal organs. The structure also of these organs differs, as well as the pattern on the abdomen. From *Linyphia pullata* Cambr. it

may be known by its larger size, and by the circularly-curved spine at the end of the palpal organs.

*Linyphia approximata* occurred in abundance at the end of May, 1863, among grass and sedge in a marshy spot at Bloxworth, but I have never met with it since. It has, however, been sent to me from France. It spins an irregular web low down among the stems of the grass and sedge among which it was found.

• LINYPHIA DORSALIS.

LINYPHIA DORSALIS, *Wider.*, Zool. Misc. Arachn. Mus. Senck., p. 258 (264), pl. xvii., fig. 12.

„ ANTHRACINA, *Blackw.*, Ann. and Mag. N. H. (2). xi., p. 18.

„ CLAYTONIÆ, *Blackw.*, Spid. Great Brit. and Irel., p. 233, pl. xvi., fig. 155.

The length of the male is about 1-9th to 1-10th of an inch.

The cephalo-thorax is of a dark brown colour tinged with yellow. The caput is neither elevated nor prominent in the ocular region, behind which are some bristly hairs directed forwards. The legs are long, slender, of a yellowish-red colour, and the spines are neither numerous nor conspicuous. The palpi are similar in colour to the legs. The radial and cubital joints are short, the former is the stronger and is produced somewhat in front, where it is furnished with bristly hairs. The digital joint is of moderate size, and has a lobe on the outer side. The palpal organs are prominent and complex, with various spines and processes, of which a curved process at the base, on the outside, and two contiguous curved spines near the middle, are the most conspicuous. The falces are very slightly divergent, and (in the male only) have a small protuberance near the base in front. The abdomen varies greatly in its depth of colour and in the completeness of its markings. In some examples it is black or nearly so (var. *anthracina*, *Blackw.*), at other times it is black, with a longitudinal series of yellowish-

brown, angular lines down the middle of the upper side; in others it is of a brownish-yellow hue with black angular lines, the latter often entirely obsolete or represented by a few black spots, or by one or two black markings; examples also occur intermediate between the black and the pale ones.

The female is larger than the male; its abdomen is much more convex above, and projects considerably over the base of the cephalo-thorax. A small, rather narrow, elongate process, a little enlarged at its extremity, is directed backwards from the genital aperture.

An abundant species among underwood, on furze bushes, and on the lower branches of oak trees, in the months of May and June, at Bloxworth, as well as in other parts of Dorsetshire. It occurs also in the North of England and in Scotland.

#### LINYPHIA ERICÆA.

LINYPHIA ERICÆA, *Blackw.*, Spid. Great. Brit. and Irel., p. 237, pl. xvii., fig. 159.

The male measures about 1-13th or 1-14th of an inch in length.

The caput is not elevated, and is only very slightly prominent at the ocular region. The cephalo-thorax is of a pale yellowish colour, slightly tinged with brown; the legs are rather long, slender, of a pale yellow colour, and the spines are of great length, but also light coloured. The palpi are short, slender, and similar in colour to the legs. The radial joint is stronger than the cubital, but both are very short. The digital joint is very small, and of a round-oval form; the palpal organs are complex, the most noticeable process being a not very conspicuous, curved, or crescent-shaped one at their base on the outer side; near the middle of the upper (or posterior) edge of this process is a small, sharp-pointed, thorn-like prominence or spine, whose point is almost in contact with the extremity of the radial joints. The abdomen is of an almost uniform pale yellowish-brown colour, rather darkest underneath. If there

are occasionally a few darker markings above, these soon fade away in spirit of wine.

The ocular area is rather conspicuous, from the eyes being placed on strong black spots, and closely grouped together.

The female is larger, but resembles the male in colour.

Found very rarely among heather at Bloxworth, in late summer and autumn, and occasionally in spring; but received more frequently from the Northumberland and Berwickshire moors, as well as from other parts of Scotland. It has also been met with in North Wales, and in Yorkshire.

#### LINYPHIA CIRCUMSPECTA.

LINYPHIA CIRCUMSPECTA, *Blackw.*, Spid. Great Brit. and Irel., p. 246, pl. xvii., fig. 165.

The male measures about 1-13th of an inch in length.

The caput is neither elevated, nor prominent at the eyes. The colour of the cephalo-thorax is yellow-brown; the legs and palpi are rather paler, and the spines on the former are not very long nor conspicuous. The radial and cubital joints are short, the former is stronger than the other, the digital joint being of moderate size. The palpal organs are complex, but present no very noticeable process; a slender black spine forms a coil at their extremity, and within the coil appears the short prominent point of another small black spine, or process. The abdomen is of a yellowish-brown colour above, the sides and under side being darker. A longitudinal series of dark-brown, or blackish angular bars, occupies the middle of the upper side; these are sometimes almost obsolete, at other times the darker portions of the upper side prevail, and the central line has then a series of more or less perfect angular bars of a pale yellow-brown colour; in some examples the vertices of these angular bars are wanting, leaving a series of oblique elongate spots in pairs.

The female is rather larger than the male, and its abdomen is very convex above; the pattern also is usually far more distinct on the upper side than in the male,

This spider may be easily distinguished from *Linyphia eriosea*, Bl., by the coiled spine at the extremity of the palpal organs, as well as by the pattern on the upper side of the abdomen. From *Linyphia pullata*, Cambr., which it somewhat resembles in pattern, it may be known by its lighter and yellower hue, as well as by its much smaller size, and smaller and rounder digital joint and palpal organs; these last, although furnished with a coiled, terminal spine, being quite different in other points of structure.

Occasional among heather towards the end of summer, and in autumn, at Bloxworth. I have also received it from various other parts of Dorsetshire, and it occurs in many localities in England, Scotland, and Wales.

#### LINYPHIA EXPERTA.

LINYPHIA EXPERTA, *Cambr.*, Trans. Linn. Soc. xxvii., p. 429, pl. 55., No. 23.

The length of the male is 1-8th of an inch.

The cephalo-thorax is of a yellow-brown colour, and when looked at sideways there is a hollow in the profile line just behind the caput. The legs are long, slender, furnished with a few short fine spines, and rather paler in colour than the cephalo-thorax. The palpi are of a similar hue to the legs; the radial and cubital joints are of about equal length, the former being slightly prominent behind, and somewhat obtusely produced at its extremity in front. From near the fore extremity of the upper side of both radial and cubital joints there projects from each a single, long, strong, tapering bristle. The digital joint is not very large, and has a lobe about the middle of the outer margin; the palpal organs are prominent and complex; and among the processes connected with them is one situated towards their base on the inner side, projecting, prominently backwards and outwards; this process is of a slender form, nearly straight, semi-transparent, and tipped with a kind of tuft of black bristles,

The abdomen is of an elongate-oval form, projecting a little over the base of the cephalo-thorax, and its colour is dull black.

A single example was found in December, 1867, in the village schoolroom, at Bloxworth, probably brought in among the heathy turf used for fuel. I have since received several examples from Berwickshire; but have not again met with it in Dorsetshire.

#### LINYPHIA ERRANS.

NERIENE ERRANS, *Blackw.*, Spid. Great Brit. and Irel., p. 253, pl. xviii., fig. 170.

The length of the male is about 1-10th of an inch.

The cephalo-thorax is brown; the caput is not elevated, nor prominent at the eyes. The legs are long and of a pale red-brown colour, and the spines are not strong, though distinct. The radial and cubital joints of the palpi are short, the former much the strongest. The digital joint is oval, with a large lobe on the outer side near the upper part, and the palpal organs are prominent and complex, with several curved, pointed, prominent processes at their extremity.

The abdomen is of a dull, greenish-brown hue, with a longitudinal, central series of obscure, angular, yellowish-brown lines on the upper side.

The female is rather larger than the male, but resembles that sex in colours.

Rare, on iron railings, in spring, at Bloxworth. It appears to be more plentiful in the North of England and in Wales.

#### LINYPHIA OBLONGA.

LINYPHIA OBLONGA, *Cambr.*, Trans. Linn. Soc. xxvii., p. 433.

The length of the female is 1-16th of an inch.

This minute spider may easily be recognised by its generally

flattened, oblong form; the abdomen also being rather broader behind than in front.

The cephalo-thorax is of a pale, semi-diaphanous, yellowish-brown colour. The legs are rather long, slender, furnished with a few, longish, slender spines, and similar to the cephalo-thorax in colour; the tibiæ and metatarsi often suffused with a darker hue. The eyes are very minute, seated on black spots, and all of a pearly white lustre. The abdomen projects a little over the base of the cephalo-thorax, and is of a dull greenish olive, black-brown colour, marked with some obscure, fine, pale lines and spots, disposed rather regularly, and chiefly visible after the spider has been placed in spirit of wine. The genital aperture is margined with red-brown, and is of a nearly circular form.

I have not yet met with the male of this spider, but females have been occasionally found on iron railings, at Bloxworth Rectory, in the months of May and June.

#### LINYPHIA (?) INCERTA.

LINYPHIA (?) INCERTA, *Cambr.*, Ann. and Mag. N. H., 1878, p. 117, pl. xi., fig. 2.

Length of female 1 line.

Very nearly allied to *Linyphia oblonga*, *Cambr.*, and closely resembling it, but larger and darker coloured. The eyes are larger and not all pearly white, as in *L. oblonga*, but the fore-centrals are dark; the height of the clypeus exceeds half that of the facial space. Legs long, slender, 4.1.2.3. Spines very long and prominent. Length of spine, near the posterior extremity of the tibiæ of fourth pair, equal to (or exceeding) three times the diameter of the joint. Palpi rather long and slender. Abdomen oblong-oval, depressed, and projecting considerably over the base of cephalo-thorax; it is of a dull brownish-yellow, with a rather darker, tapering stripe on the upper side along the middle of the fore-half. Genital aperture large, and somewhat circular



in form. The integument of the posterior extremity of the abdomen is marked with some transverse foldings.

Found on a wall, in the month of June, 1877, at Bloxworth.

#### LIMYPHIA BICOLOR.

*NERIENE BICOLOR*, *Blackw.*, Spid. Great Brit. and Irel., p. 250, pl. xvii., fig. 168.

The male measures 1-6th of an inch, though among a series of examples there will be found considerable diversity of size, some larger and some smaller than the measurement given above. This diversity is observable in both sexes.

The caput is very slightly, but not abruptly elevated, rising gradually from the hinder slope of the thorax. It has some bristly hairs on and behind the ocular region. The cephalo-thorax is of a reddish yellow-brown colour, and the legs and palpi are of a rather lighter hue. The spines on the legs are distinct, but not very strong. The palpi of the male are moderately long; the cubital and radial joints short; the former is less strong than the latter, and has a single, long, tapering bristle at the fore extremity on the upper side. The radial joint has a small obtuse protuberance on the outer side of the upper part, furnished with a compact group of long, strong, somewhat spinous, black bristles, of equal strength throughout their length. The digital joint is not large; its form is roundish-oval, with a prominent lobe on its outer side, and a large obtuse process at its base. The palpal organs are prominent and complex; among the most conspicuous of their processes is a curved one near the base on the outer side.

The abdomen projects well over the base of the cephalo-thorax, and is of a brownish-black colour.

The female resembles the male in colours, and is usually larger.

Rare among heather, and herbage in woods, at Bloxworth, but apparently much more numerous in the north of England, Scotland and Wales.

## LINYPHIA ABNORMIS.

*NERIENE ABNORMIS*, *Blackw.*, Spid. Great Brit. and Irel., p. 286,  
pl. xix., fig. 200.

The male measures about 1-8th of an inch in length, and the female is somewhat larger.

The caput does not rise above the level of the thorax. The cephalo-thorax is of a brownish-red colour; the legs reddish-brown, armed with a few long fine spines; and the abdomen is of a darkish brown colour, obscurely mottled with a still darker hue.

The digital joint of the palpus has a large lobe on the outer side; the palpal organs are prominent, and very complex, with a very large irregular process at their base on the outer side.

The female resembles the male in colours, but is rather paler, and larger.

Two examples only have been found in Dorsetshire—at Bloxworth, among heather, in summer time. Mr. Blackwall has also found it in Lancashire.

## LINYPHIA LINGUATA.

*LINYPHIA LINGUATA*, *Cambr.*, Trans. Linn. Soc. xxviii., p. 537, pl. xlv., fig. 8.

The length of the female is very nearly 1-6th of an inch.

The whole of the fore part (including the cephalo-thorax, palpi, and legs) is of an orange-yellow colour. The abdomen is pale yellow-brown, with a rather indistinct, darker, longitudinal stripe along the middle of the fore half of the upper side, followed towards the spinners by several transverse angular stripes of a similar nature and colour; the sides are slightly suffused with a dusky hue, and the under side has a

broad, longitudinal, dusky band reaching from near the spinners to the genital aperture. With this last is connected a long, rather broad process, directed horizontally backward, and of a somewhat tongue-shape, its extremity being broader than the rest. By the form of this process the female of this spider may be easily determined; but the \*male has not yet been discovered. The spines on the legs are rather long, and very slender.

An example of the female was received from Mr. C. W. Dale, by whom it was found at Glanvilles Wootton, in the summer of 1877. It had previously been found only in Scotland.

#### LINYPHIA DECIPIENS, sp., n.

Adult female length, 2 lines.

The cephalo-thorax is moderately convex above, the profile line of the caput and thorax forming a very slightly curved, even line, being, in fact, almost straight from close to the hinder extremity to the occiput; its colour is a pale, dull, straw-yellow, which would probably have deepened to yellow-brown, as the examples met with had evidently not long attained maturity.

The *eyes* are of tolerable size, in the usual general position, and the ocular area is a little prominent. Those of the hind central pair are rather nearer to each other than each is to the hind lateral eye on its side. The eyes of the hinder row (in the two examples found) have a diaphanous, aborted appearance; whether this may be accidental or not is uncertain; those of the fore-central pair are separated by a distinct interval, equal to

\* An adult male example, which I believe to be of this species, has very recently been sent to me from Scotland. Its length is 2 lines. The abdomen is of a dull, sooty hue, without markings, excepting an indistinct, dull, whitish patch towards the hinder extremity of the upper side. The falcies are rather long, moderately strong, divergent, armed with longish, strong teeth in the usual position, and with a strongish, toothlike process, towards the fore extremity, rather on the inner side. The legs of the second pair are distinctly shorter than those of the fourth pair, while in the female those of the second appear slightly to exceed the fourth pair in length; the legs are clothed with coarse hairs, and two or three very slender spines on the genual and tibial joints. The palpi are rather long, slender, and much like those of *Neriene rufa*, p. 123 (*N. rubripes*, Blackw.), but the palpal organs differ a little in structure, and the falcies are not nearly so strong, nor so prominent near their base in front.

about half an eye's diameter. The height of the clypeus, which is prominent at its lower margin, exceeds half that of the facial space.

The *legs* are of moderate length and strength, 4.1.2.3. They are similar to the cephalo-thorax in colour, and armed with a few slender erect spines, or spine-like bristles, on the upper sides of the genua and tibiæ. The difference in length between 4 and 1 is very slight.

The *palpi* are moderately long, and similar to the legs in colour and armature.

The *falces* are rather long, powerful, strongly prominent at their base in front, perpendicular, divergent at their extremities, and armed with a double row of 5-2 teeth of different sizes; the two central teeth of the anterior row being the strongest. The colour of the falces is like that of the cephalo-thorax.

*Maxilla* moderately long, strong, straight, rather rounded on their outer marginal line, and inclined moderately towards the labium, which is of a somewhat short-oblong form, rounded at the apex.

The *abdomen* is short-oval, of considerable convexity above, and clothed pretty thickly with coarse dark hairs. Its colour is a dull luteous brownish, deepening to sooty black on the sides and under part, with an indistinct, narrow, longitudinal marking on the fore part of the upper side, followed, to the spinners, by a series of indistinct, sooty, transverse, slightly-angular bars. The process in front of the genital aperture is conspicuous, being broad, and rather vertically prominent.

Two examples of this spider (which appears to belong to that group of *Linyphia* comprised in the genus *Bathyphantes*, (Menge) were found among fallen leaves in Bere Wood, adjoining Bloxworth, towards the end of September, 1878. It is closely allied to *Linyphia linguata*, Cambr., and may possibly be the female of *Neriens rufa* (p. 123), the adult female of which is as yet unknown to me.

# LINYPHIA PARVULA.

LINYPHIA PARVULA, *Westr.*, Aran. Suec., p. 135.

„ LONGIPES, *Cambr.*, Trans. Linn. Soc. xxvii., p. 430,  
pl. 55, No. 24.

BATHYPHANTES LONGIPES, *Menge*, Preuss. Spinn., p. 116, pl. 21,  
Tab. 42.

The male measures 1-12th of an inch in length.

The cephalo-thorax is of a dark brown colour, with dusky black margins, and converging lines on the sides, of the same hue. The caput is a little elevated, and prominent at the eyes, chiefly owing to a dip or hollow, most visible in profile, between the caput and thorax. The legs are very long, slender, of a dark yellow-brown colour, and the spines are neither strong nor numerous, though distinct. The length of the legs of the fourth pair is greater than that of the first. The palpi are not very long; the radial and cubital joints are short, and of equal length; the former is rather gibbous, furnished with a few bristly hairs on its upper side, and slightly produced towards its inner side. The digital joint has a prominent lobe on its outer side forwards. The palpal organs are prominent and complex, the most noticeable of their processes being one of a curved form at their base on the outer side, having its upper edge fringed with bristly hairs; and a slender black spine coils round their extremity.

The abdomen is black.

The female is larger than the male, and her legs are shorter; but the sexes are similar in colour.

I first met with this spider at Southport, Lancashire, in 1859; but afterwards found it in abundance, spinning an irregular web, among stems of grass and rubbish in woods, swamps, and waste places at Bloxworth, in May, 1863. Since then I have scarcely met with it at all. The male is very similar in the structure of its palpi to *Linyphia circumspecta* Bl., but is larger, and never has the

characteristic abdominal pattern of that species. From *Linyphia aëria*, Cambr., it may be distinguished not only by being rather larger, but by the coiled spine at the extremity of the palpal organs, which is wanting in that species.

#### LINYPHIA AERIA.

*LINYPHIA AERIA*, Cambr., Ann. and Mag., N.H., 1875, p. 251, pl. viii., fig. 8.

The length of the male is 1-13th of an inch.

The cephalo-thorax, looked at sideways, shows a deep hollow or depression between the caput and thorax, the latter being slightly the most elevated of the two. It is of a yellow-brown colour, with the margins and converging lateral lines of a somewhat more dusky-brown hue. The legs are rather long, and slender; they are of a pale dull yellowish colour, and the spines are few in number, and slender, but rather long.

The palpi are short and slender, and of the same colour as the legs. The cubital and radial joints are very short; the former has a fine, tapering bristle at its fore extremity above; and the latter is the stronger, being produced a little more in front than behind. The digital joint is of moderate size, and the palpal organs are rather complex, but do not present any very noticeable or conspicuous process.

The abdomen is considerably convex above, projects a good deal over the base of the cephalo-thorax, and is of a dull blackish colour.

The female is rather larger than the male, but resembles it in general structure and colour.

This spider is nearly allied to the foregoing, but is smaller; its legs are also shorter, and the palpal organs have no coiled spine at their extremity.

Found occasionally in autumn and spring at Bloxworth Rectory, running on iron railings, on bright, warm mornings.

## LINYPHIA PHOLCOMMOIDES, sp. n.

Length of the adult male, scarcely more than 2-3rds of a line.

The cephalo-thorax is of a short, round-oval, rather flattened form; the caput very short, and with scarcely any lateral compression; the thorax, at the top of the posterior slope (which is steep, and greatly indented), is higher than any part of the caput; the profile running through to the eyes in a very slightly concave line. The colour of the cephalo-thorax is yellow, with a dusky-blackish, central, longitudinal line, enlarged into a patch on the occiput. There are also similar converging lines on the sides, and a marginal line of the same hue.

The eyes are rather large, and closely grouped, reminding one very much of the position of those of *Pholcomma* (p. 81). Three large eyes, contiguous to each other, form a very short, curved line (or rather a triangle) on each side of the ocular area, which is suffused with black. Between the fore ends of these lines are the more minute fore-central pair of eyes, contiguous to each other, and to the fore-lateral eye on each side; the interval between the eyes of the hind-central pair is very small, being no more, if so much, as half of an eye's diameter. The height of the clypeus is about equal to one-third of that of the facial space.

The falces are small, directed strongly backwards, and similar to the cephalo-thorax in colour.

The legs are rather long, and slender; their relative length is apparently 4.1.2.3.; but some of them being mutilated, I am not sure upon this point. The femora are of an orange-yellow colour; the tibiæ of the first and second pairs suffused with dusky-blackish; and the rest are of a paler, yellowish hue. The armature was much damaged, but it consists apparently of hairs and a few fine spines on the tibiæ and metatarsi.

The palpi are short, and yellow. The cubital and radial joints are very short; the latter strongest, and slightly produced at its upper extremity in front. The digital joint is oval, and of moderate size. The palpal organs are very prominent and com-

plex, with various processes, among which the most conspicuous is a large, projecting, curved one at their base on the outer side.

The sternum is large, and heart-shaped; its fore extremity strongly concave or circularly indented; and it is of a yellowish colour, suffused with dusky-black.

The abdomen is small, of a somewhat elongate-oval form, and of a blackish hue, tinged with olive green, and thinly clothed with hairs.

An example of this spider, which may be readily distinguished from many other small species of *Linyphia* by the close grouping of the eyes, and the dark femora of the first and second pairs of legs, was found near Sherborne, in the autumn of 1878, by my nephew, Frederick P. Cambridge.

#### LINYPHIA INCONSPICUA.

*LINYPHIA INCONSPICUA*, *Cambr.*, Trans. Linn. Soc. xxvii., p. 432.

The length of the male is 1-17th of an inch.

The cephalo-thorax (which has a narrow blackish margin), together with the legs and palpi and other fore parts, are pale yellow, the sternum slightly suffused with blackish. The abdomen, which projects a little over the base of the cephalo-thorax, is of a pale, whitish-brown colour on the upper side, reticulated with a darker hue, forming an indistinct, central, longitudinal, pale, narrow, denticulate band, pointed at its hinder part, reaching nearly to the spinners, and sending out pale lateral lines. The underside is suffused with black, and the spiracular plates are pale yellow. The eyes are rather large and closely grouped, seated on black (almost confluent) spots, and the interval between those of the hind-central pair is distinctly greater than that between each and the lateral eye, of the same row, next to it. The legs are long and slender, and the spines are long and slender also. The palpi are short; the radial joint is much stronger than the cubital, and, like that of most of this genus, dilated at its anterior extremity, and furnished with a few longish, bristly hairs, of which one is longer and stronger than



the rest. The digital joint is of moderate size, with a small lobe on its outer side. The palpal organs are rather complex, with a curved process, near their base on the outer side, having a short, fine, spiny, black point almost touching the outer extremity of the radial joint.

The female is larger and darker coloured than the male, and her abdomen projects greatly over the cephalo-thorax; her legs also differ in their relative length, those of the fourth pair being apparently longer than those of the second.

This spider is very closely allied to *Linyphia ericæ*, Bl., but may be distinguished by the interval between the hind-central pair of eyes being very distinctly greater than that between each and the lateral next to it, whereas in *Linyphia ericæ* the intervals between the eyes of that row are equal, or, if anything, very slightly greater between the hind-centrals. The genital process of the female also differs in structure. The palpal organs of the male are very similar in both species.

An adult male and females were found among herbage in a wood at Bloxworth, in April, 1867, but it has not been met with since.

#### LINYPHIA OBLIVIA

LINYPHIA OBLIVIA, *Cambr.*, Trans. Linn. Soc. xxviii., p. 446, pl. xxxiv., fig. 13.

The length of the male is 1-16th of an inch.

The caput is slightly lower (when looked at in profile) than the thorax, and is a very little prominent at the eyes. The cephalo-thorax is yellow-brown, margined with black-brown; at the hinder part of the caput is a largish, somewhat quadrate, black-brown patch, with some lateral converging lines of the same hue.

The eyes do not differ much in size; those of the hind-central pair are very slightly further apart than each is from the lateral next to it; those of the fore-central pair are the smallest, and have a distinct, though very small, interval between them. The cubital and radial joints of the palpi are

short, but of about equal length ; the latter is a little produced at its fore extremity on the upper side, and the former has a single, curved, prominent black bristle issuing from its fore side ; the digital joint is of moderate size, and the palpal organs are prominent and rather complex, but present no very remarkable process. The abdomen is shining black. The legs are slender, of moderate length, and of a dull brownish-yellow colour ; and the spines are few, long, and erect, but slender.

This spider is nearly allied to *Linyphia ericaa*, Bl., and *Linyphia inconspicua*, Cambr., but, from both, the black abdomen and the colour of the cephalo-thorax distinguish it readily. It also approaches nearly to some species of *Neriene*, though the presence of distinct spines on the legs separates it from that genus.

A single example only was found at Bloxworth in the summer of 1870, but in what situation I have no precise note ; probably it was among herbage in a wood.

#### LINYPHIA OBLITA.

LINYPHIA OBLITA, *Cambr.*, Trans. Linn. Soc. xxvii., p. 432.

Length of the male, 1-13th of an inch.

The profile line of the thorax and caput has no hollow or depression behind the latter ; nor is the latter elevated, nor prominent at the eyes ; resembling, in fact, in the form of the cephalo-thorax, many species of *Neriene*. The cephalo-thorax is of a dark yellowish-brown colour, with a black margin, and an angular dark brown patch at the back of the caput, and some narrow converging lateral stripes of the same hue. The legs and palpi are yellow, the former moderately strong and not very long ; their relative length is 4.1.2.3., and they are furnished with a few slender spines of moderate length. The radial joint is stronger than the cubital, and has, on its outer side, some long, curved, bristly hairs directed downwards. The digital joint is of moderate size, and the palpal organs are compact, though com-

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plex, with a strong curved process at their base on the outer side.

The eyes are rather small, but do not differ greatly in size; they are seated on small black spots, and those of the posterior row are equidistant from each other; the height of the clypeus (which is not impressed, but is a little prominent below) is half that of the facial space. The falces are a little divergent at their extremity, and are directed strongly backwards towards the sternum, which is of a blackish-brown colour.

The abdomen projects, but very slightly, over the base of the cephalo-thorax, and is of a brownish-black colour.

This is an obscure spider, and allied to *Linyphia oblivia*, Cambr., but may be distinguished by the less abrupt slope of the hinder part of the thorax; in *L. oblivia* the thorax is also perceptibly higher (in profile) than the caput, whereas it is not so in the present spider; the relative distances also between the eyes of the posterior row differ. Nor could I, on close examination, observe any curved process at the base, on the outer side, of the palpal organs of *L. oblivia*.

A single example beaten from a furze bush, at Bloxworth, in the summer of 1863.

#### LINYPHIA PALLIDA.

LINYPHIA PALLIDA, *Cambr.*, Trans. Linn. Soc. xxvii., p. 435, pl. 56, No. 26.

The length of the male is 1-12th of an inch.

The caput is not elevated, the profile line forming a gradually rising slope to the ocular area, which is a little prominent. The cephalo-thorax is of a dusky yellow hue, tinged with orange, and its surface is minutely punctured with very fine impressed dots. The clypeus is prominent, and its height is half that of the facial space. The eyes are on small black spots, and the interval between those of the hind-central pair is rather greater than that between each and the lateral eye next to it. The legs are long and rather slender; the relative length of those of the

male is 4.1.2.3. ; they are like the cephalo-thorax in colour, and are armed with long spines.

The palpi are short; the radial joint is stronger than the cubital, and is furnished with some bristly hairs, one of them towards the base in front being of a spinous nature, very long, strong, directed forwards and downwards, curved and tapering. There is also a strongish bristle in front of the cubital joint, but its length is not more than half that of the one on the radial; the digital joint is large, and the palpal organs are prominent and complex. The two most conspicuous processes are a long, slightly bent one, on their outer side, with a prominent, sharpish spur behind, near the middle of it, and another strong curved one, on the same side, close to their base; at their extremity is also a small bent, blackish, blunt-pointed, spiny process.

The abdomen is of a light, dull yellowish colour, thinly clothed with coarse hairs; and in one example there were some slightly angular, transverse, dusky lines along the middle of the hinder half.

The female resembles the male in colour, but is larger. The abdomen is greatly convex above, and the falces are more divergent. The genital process is very large, strong, and projects almost at right angles from the aperture, its form is also somewhat complex. The relative length of the legs of this sex also differs from that of the male, being 1.2.4.3.

Two examples (one of each sex) were found at the roots of heather at Bloxworth, in March, 1867.

#### LINYPHIA DECENS.

LINYPHIA DECENS, *Camb.*, Trans. Linn. Soc. xxvii., p. 436, pl. 56, No. 27.

The male measures 1-12th of an inch in length.

The caput is not elevated above the thoracic level. The cephalo-thorax is of a yellow-brown colour, and its surface is finely, completely, and thickly covered with minute punctures.

The eyes are very small, and the interval between those of the hind-central pair is no more than half of that between each

and the lateral eye of the same row next to it. The legs are long, moderate in strength, and of a paler, clearer yellow colour than the cephalo-thorax. Their relative length is 4.1.2.3., and the spines are few and slender.

The palpi are short, and like the legs in colour. The radial joint is rather protuberant, or produced, at its extremity in front, where it has a single marginal row of bristly hairs projecting over the base of the digital joint, with two longer and stronger curved bristles on the outer sides. The digital joint is large, and has a large lobe, ending in a blunt projection, towards its base on the outer side. The palpal organs are prominent and complex. A strong, curved process projects outwards at their base, and has a slight notch on its inner margin near the extremity. There are also two curved spines at the extremity of the palpal organs rather on the inner side; one of them lies within the other, and is much the slenderer of the two; near them also is a small, conically-pointed protuberance.

The falces are long, strong, and very slightly divergent. The abdomen projects slightly over the base of the cephalo-thorax, and is of a pale brownish-yellow colour, covered sparingly, but regularly and conspicuously, with blackish-brown hairs.

This spider bears a considerable resemblance to *Linyphia pallida*, Cambr., in general appearance and colours, but may easily be distinguished by the structure of the palpal organs, and by the very small size, and position of the eyes.

A single example only, found at the roots of heather at Bloxworth in the spring of 1862.

#### LINYPHIA CONCOLOR.

LINYPHIA CONCOLOR, *Wid.*, Mus. Senck., Band 1., p. 267, Taf. 18, fig. 3.

THERIDION FILIPES, *Blackw.*, Spid. Great Brit. and Irel., p. 206, pl. xiv., fig. 136.

The length of the male is 1-10th of an inch.

The caput is on the same level as the thorax, and the ocular

region is very slightly prominent. The colour of the cephalothorax is yellowish-brown; the legs and palpi being a little lighter in hue. The legs are long and very slender (1.4.2.3.); the spines on the legs are fine and short, but distinct and nearly erect. The palpi (excepting the digital joints) are short; the radial is stronger than the cubital joint, being prominent at its fore-extremity and on the inner side, with several long, strong bristles in front. The digital joint is long and of an irregular oval form, drawn out before, and with a prominence towards the base on the outer side, and two smaller ones close to its base in front. The palpal organs are prominent and complex; among the various processes is one which extends beneath them throughout their whole length, and has its fine filiform termination curved in an almost circular form at their extremity. The falcies are long, rather weak, and divergent. The abdomen is of a deep, slightly brownish-black colour.

The female is larger than the male, but resembles it in colours; the abdomen projects considerably over the base of the cephalothorax. The genital process is long, slender, cylindrical, very slightly curved, of a semi-diaphanous, pale, yellow-brown colour, and directed backwards in close proximity to the under surface of the abdomen.

Found, though not abundantly, at Bloxworth and in other localities in Dorsetshire, among moss and under stones and logs in woods during spring and early summer time. It occurs also in other parts of England, as well as in Scotland and North Wales. The palpi of the male (of which the digital joint and palpal organs almost equal in length the whole of the rest of the palpus) and the long, slender, genital process of the female are remarkably characteristic of this spider, and render it an easily distinguished species.

#### LINYPHIA INSIGNIS.

LINYPHIA INSIGNIS, *Blackw.*, Spid. Great Brit. and Irel., p. 238, pl. xvii., fig. 168.

The length of the male is nearly 1-6th of an inch.

The caput is not raised above the level of the thorax, but the ocular region is a little prominent. The colour of the cephalothorax is yellow-brown. The legs are long (1.2.4.3.), slender, of a paler and clearer colour than the cephalothorax, and usually tinged with red. The spines are tolerably strong, long, and prominent. The palpi are rather short, and similar in colour to the legs. The radial joint is stronger than the cubital, and has a prominent process near its base on the outer side, of a rather sharp pointed, conical form, furnished at its point with two long bristles. The digital joint is large, and has a strong lobe on the outer side. The palpal organs are prominent and complex, with various conspicuous spines and processes, the most noticeable of which is a large, somewhat flattened, curved one beneath their base, and on the outer side.

The eyes of the fore-central pair are separated by an interval nearly equal to half an eye's diameter. The abdomen is of a dull yellowish colour; the upper side has a longitudinal series of transverse, angular, black lines on the middle and hinder part; these lines are often obsolete, or more or less imperfect, and the sides have some short, oblique, black markings forming an irregular longitudinal band; the under side also has some black patches and markings, and there are some broken ones round the base of the spinners. The female resembles the male in colours and markings; the genital process is very long, strong, somewhat cylindrical in its form, enlarging a little towards its extremity, which is notched or cleft, and of a bright reddish colour, the rest being dull yellow; this process is directed backwards, and its inferior surface is furnished with long coarse bristly hairs.

This fine and very distinct species is rare at Bloxworth among low plants in open places in woods and plantations in autumn. It appears to be much more common in the North of England, and has been also met with in Wales and Scotland. The male palpi and the female genital process are exceedingly characteristic, and with the colours and markings of the spider render it an easily recognized spider.

## LINYPHIA IMPIGRA.

LINYPHIA IMPIGRA, *Cambr.*, Trans. Linn. Soc., xxvii., p. 422, pl.

55, No. 18.

The male measures 1-6th of an inch in length.

The caput is neither raised nor prominent; the profile of this part and the thoracic region forms a tolerably even curved line; the lower part of the clypeus is rather prominent. The colour of the cephalo-thorax is dark orange-yellow, with some converging, slightly dusky, lateral lines. The legs are long, tolerably strong, and of a clear, bright, orange-yellow colour. The spines are few, short, and semi-erect. The relative length of the legs is 1.4.2.3. The palpi are short, and similar in colour to the legs; the radial joint is a little longer and much stronger than the cubital, and is rather gibbous on the inner side towards the extremity. The digital joint is large, and the palpal organs prominent and complex. A long black spine issues from a corneous process near their extremity, and curves backwards with a large bold sweep round their outer side to the hinder part, or base, near the digital joint. The falces are long, strong, a little prominent near their base in front, and strongly inclined towards the sternum.

The abdomen projects considerably over the base of the cephalo-thorax; it is of a glossy blackish colour, with two dull white spots in a transverse line near the fore extremity, and two bright white ones similarly placed just above the spinners. When in spirits of wine a longitudinal, central, tapering band, and a longitudinal row of largish spots on each side of it, of a darker hue than the rest of the surface, were indistinctly traceable.

Two males are the only examples yet recorded of this fine and distinct species; these were found among sedgy grass in a swamp at Bloxworth in May, 1863.



## LINYPHIA CLATHRATA.

*LINYPHIA CLATHRATA*, *Sund.*, Sv. Spindl. Beskr. in Vet. Akad. Handl., f. 1829, p. 218.

*NERIENE MARGINATA*, *Bl.*, Spid. Great Brit. and Irel., p. 249, pl. xvii., fig. 167.

The male measures about 1-7th of an inch in length.

The caput is not raised above the thorax, excepting that the profile line rises gradually, in a very slight curve, from the hinder, extremity of the latter, to the eyes. The colour of the cephalothorax is a rich blackish-brown. The legs are long, moderately strong and of a reddish-yellow hue, sometimes annulated with brown. Their relative length is 1.4.2.3. The spines are short and rather slender. The palpi are short, and of a much duskier hue than the legs, the digital joint, which is large, being deep black-brown; the radial is much stronger than the cubital joint, and is furnished with numerous long, bristly, black, prominent hairs on the outer side, the thickest part of the group forming a sort of pointed tuft. The palpal organs are prominent and complex, but tolerably compact, and of a deep brown-black colour; a large curved process originating on their inner side has its sharp point directed downwards on the outer side, and there is a spirally coiled spine at their extremity, with some prominent transparent membrane whose margin is slightly fringed.

The abdomen of the male is of a somewhat narrow, oblong-oval form; it is of a brownish-black colour, with a marginal band of a brown hue, spotted closely with white, strongly dentated along the sides of the abdomen, and continued, but not dentated, above the spinners; at the fore extremity it is divided by the anterior portion of a strong, black, somewhat cruciform marking; and a longitudinal series of curved, angular, dull, brownish bars, spotted with white, occupies the middle of the upper side. According to the preponderance of the black, or white spotted portions, either may be taken as the ground colour of the upper part; in the above description the black

portion is taken as the ground colour; but if the white spotted portion be so taken, the lateral bands then become black dentated ones and the angular lines along the middle also black. The under side is brownish-black with a few marginal white spots.

The female is slightly larger than the male; her abdomen is of the ordinary form and projects well over the base of the cephalo-thorax. In females, young males, and those that have not long attained maturity, the abdominal pattern is generally very distinct; but in old males it is usually merged in a more or less complete blackness, excepting two large white spots, one on either side of the fore extremity.

This is an abundant spider at Bloxworth, and in many other localities in Dorsetshire. It is also found in other parts of England, as well as in Scotland and Wales. It is adult in spring and summer, and its favourite haunts are among herbage, and the débris of former fences in hedge rows; it is also found in various other situations where it can obtain shelter among low growing plants for its horizontal sheet of web, on the under side of which it sits in an inverted position. The male may frequently be seen running on paths and roads in the daytime.

#### LINYPHIA FURTIVA.

LINYPHIA FURTIVA, *Cambr.*, Trans. Linn. Soc., p. 425, pl. 55, No. 20.

The length of the male is 1-6th of an inch in length.

This spider is nearly allied to the foregoing, but the profile line of the caput and thorax is straight, and ascends gradually to the eyes.

The colour of the cephalo-thorax is dark-brown, tinged with yellowish. The legs are long, moderately strong, and of a yellowish-brown hue, the spines being short and rather fine. The palpi are very like those of *Linyphia clathrata*, *Sund.*, but the bristly hairs on the radial joints are not so numerous, nor grouped in a tuft-like form; the digital joint and palpal organs form a larger mass, though the structure of the latter is some-

what similar. The abdomen also, though somewhat like that of the last-mentioned species, and resembling it in the general hue and pattern, yet differs constantly, in both sexes, in the far less distinct dentated marginal band, and central series of curved bars; the former consists of a row of white blotches of different sizes, and its continuance, by a white line round the hinder extremity of the abdomen, is interrupted by a small black interval. The under side is black, without any white spots. The abdomen of the male is oblong, strongly constricted, or strangled round the middle, but that of the female is more of the usual oval form. The genital process is short, with a large kidney-shaped, transverse aperture at its hinder extremity. This portion of structure is of greater size and prominence than that of *L. clathrata*.

Found on several occasions, in early summer, among heather, growing on the overhanging ledges of gravel pits and banks on Bloxworth Heath, and, in June, 1877, among coarse star grass on the sandhills near the sea at Studland. Its habits and snare resemble those of *L. clathrata*.

#### LINYPHIA BUCCULENTA.

*ARANEUS BUCCULENTUS*, *Clerck*, Sv. Spindl. p. 63, pl. 4, Tab. 1.

*NERIENE TRILINEATA*, *Blackw.*, Spid. Great Brit. and Irel., p. 279, pl. xix., fig. 193.

Length of the male 1-4th to 1-5th of an inch.

The caput is not higher than the thorax, though, when looked at in profile, there is a slight dip or hollow between them. The colour of the cephalo-thorax is yellow-brown, with black margins, and often an indistinct, dusky band above them, and also a central, longitudinal, black-brown band. The legs are long and moderately strong, as nearly as possible like the cephalo-thorax in colour, and usually, but not always, annulated with dark brown; the spines are short, not very strong, but distinct. The palpi are tolerably long, the cubital joint enlarges gradually to its fore extremity, and has a long, black bristle at

its extremity in front; the radial joint is shorter, and smaller, and has a conical prominence underneath, near its extremity, with some long, black bristles on its under and inner sides. The digital joint is of great length, and of an elongate, somewhat irregular, oval form, the outer side of the base having three obtuse prominences; the palpal organs are very prominent and complex, with various conspicuous processes.

The abdomen projects well over the base of the cephalothorax, and is of a yellowish-white colour, frequently suffused with a lively pinkish hue, and reticulated with fine dark lines. The upper side is divided longitudinally by a black-brown band, often somewhat dentated, and emitting fine lateral ramifications; and on each side is a longitudinal row of similarly coloured, and often confluent spots; the two rows converging above the spinners. The sides are marked with several oblique blackish lines, and the under side is brown with some pale spots.

Varieties occur in which the abdomen has scarcely any dark markings, excepting an indistinct, longitudinal, central stripe.

The sexes are very similar in colours and markings, but, as usual, the female is the larger.

An abundant species at Bloxworth, and in many other localities in Dorsetshire, under stones and logs, at the bottom of hedgerows, among thick fern and heather, especially where there is much dead débris of the former years' growth. It is also found in other parts of England and in Scotland. The usually distinct markings, and its size, render this generally an easy spider to distinguish, but in its very young stages it may easily be mistaken for *Linyphia luteola*, Bl.

#### LINYPHIA MONTANA.

ARANEUS MONTANUS, *Clerck.*, Sv. Spindl., p. 64, pl. 3, Tab. 1.

LINYPHIA MARGINATA, *Blackw.*, Spid. Great Brit. and Irel., p. 213, pl. xv., fig. 140.

The male measures from 1-4th to 1-5th of an inch in length, and is sometimes even a little larger.

The profile line of the caput and thorax is nearly straight. The ocular region is slightly prominent, as also is the lower side of the clypeus. The colour of the cephalo-thorax is yellow-brown, strongly suffused with a darker hue on the upper part of the caput and on the sides, and the sternum is nearly black. The legs are long, rather slender, of a brownish-yellow colour, annulated with blackish-brown; the spines are short, not very strong, but tolerably numerous, and prominent. The palpi are like the legs in colour, excepting the digital joint and palpal organs, which are very dark. The radial and cubital joints are short; the former is much the strongest, and has a rather compact group of numerous long, black bristles on the outer side towards the base in front. The digital joint is large, and the palpal organs are very prominent and complex, with several strong processes, and a spiral spine at their extremity, near which is also some fringed membrane, like that connected with the palpal organs of *Linyphia clathrata*, Sund.

The abdomen is of a yellowish, dull-brown hue, on the upper side, which is enclosed by a border, near the margin, of irregular black spots and markings. The long-oval space enclosed, is truncated by a line of white spots above the spinners, and is more or less speckled with white, with a longitudinal series of black, curved, angular bars, those on the fore part more or less defective, and often altogether wanting. The sides are dull yellow-brown, speckled with white, and marked, mostly forwards, with black. The under side is nearly black, with four white spots forming a large, central, quadrangular figure.

The female is lighter coloured and larger than the male.

This spider is nearly allied to *L. clathrata*, but is larger, and has a less distinct pattern on the abdomen; the legs also are more uniformly annulated; and whereas that species is never, so far as I know, found on bushes, but only among low plants and herbage near the ground, the present is most commonly met with in such situations, where it spins the most perfect snare of its kind; the snare consists of a horizontal sheet of finely textured silken web, upheld by numerous tightly-strained, per-

pendicular lines, fixed to the adjacent leaves and twigs, and similarly braced down by other lines on the under side. There are, besides, numerous irregular lines crossing and recrossing in various directions, chiefly above; and the spider sits in an inverted position beneath the horizontal sheet, awaiting the entanglement of any passing insect in the upper maze of insidious lines. It is a common spider at Bloxworth in thick garden hedges, and shrubberies, and is very partial to fences and bushes of yew, holly, box, or white thorn. It is also found throughout the United Kingdom.

#### LINYPHIA TRIANGULARIS.

ARANEUS TRIANGULARIS, *Clorck.*, Sv. Spindl. p. 71, pl. 3, Tab. 2.

LINYPHIA MONTANA, *Blackw.*, Spid. Great Brit. and Irel. p. 211, pl. xv., fig. 138.

The length of the male is from 1-4th to 1-5th of an inch.

The profile of the caput and thorax is nearly straight, a slight dip only occurring between them; and the ocular region is a little prominent, as also is the lower part of the clypeus.

The colour of the cephalo-thorax is yellow-brown with a central, longitudinal, narrow, blackish band, furcate at its anterior extremity, and a less dark and distinct one on each side, considerably above, but parallel to, the margin. The legs are long, slender, of a brownish yellow colour, the femora tinged with a greenish hue; the spines are numerous and prominent, but not very long. The palpi are long, but similar in colour to the legs. The radial joint is stronger than the cubital, and both are short; the digital joint is small, and the palpal organs are prominent and complex, with a fine spiral spine at their extremity, surrounded by thin membrane. The falces (of the male) are long and very divergent, their length varies in different individuals, and probably increases with age; in some examples the development is excessive, exceeding the cephalo-thorax in length, and giving the spider a most formidable appearance.

The abdomen (of the female) has, on the upper side, a broad,

longitudinal, dentated, brown band, speckled with white, and the marginal prominences, or denticulations, blackish; on the hinder part of this band are, sometimes, several angular, whitish bars in a longitudinal series; the sides are yellowish-white, with a strong, rather irregular, horizontal, black marking at the fore-extremity, and two slightly oblique, black-brown stripes behind it reaching from the band on the upper side, to the under side, which is of a uniform, brown-black colour. Just above the spinners is a large, black-brown, roundish patch, sometimes semi-circular, and sometimes curvi-angular above, and enclosed by a very distinct, yellowish-white, marginal border which does not, however, encircle its lower side. The sternum is blackish-brown.

The abdomen of the male is of a narrow and somewhat cylindrical form, and its markings are generally indistinct and often imperfect. A clear white and very distinct, transverse, curved bar above the spinners represents the semi-circular border of the black patch on that part of the abdomen of the female.

Although somewhat similar to *Linyphia montana*, Clerck., this spider may be distinguished at once by its paler, clearer colouring, the absence of annuli on the legs, and (the males) by the small digital joint and palpal organs, and the long divergent falces.

Universally distributed throughout the United Kingdom, and generally abundant; attaining the adult state in late summer and autumn. It spins a snare very like that of *L. montana*, but not quite so neat and perfect.

The sexes appear to live very peaceably in the same web; in fact the webs of this species often run one into the other, completely enveloping low bushes and plants, especially furze bushes on heaths, downs, and open commons. These are the snares which form such beautiful and conspicuous objects, when laden with dew drops on a bright autumnal morning. On the previous day scarcely one may have been observable; but a fine night is a busy time with the spinners, and myriads of perfect snares are ready to catch the dew by daybreak.

## LINYPHIA PELTATA.

LINYPHIA PELTATA, *Wid.*, Mus. Senck., p. 250, Taf. xvii., fig. 7.

„ RUBEA, *Blackw.*, Spid. Great Brit. and Irel., p. 217,  
pl. xv., fig. 143.

The male measures about 1-8th of an inch in length.

The cephalo-thorax is of a yellowish-brown colour; the caput strongly tinged with a darker hue. The ocular region is slightly prominent, but the caput is not raised above the thorax. The legs are long, and slender, and the spines are rather short and fine. The palpi are short, and of the same colour as the legs; the radial joint is stronger than the cubital, and each has a long, strong bristle at the fore-extremity on the upper side. The digital joint is rather small, and the palpal organs are prominent and complex, with various corneous processes.

The falces of the male are moderately long, tolerably strong, and a little divergent.

The abdomen of the female is of the ordinary form, and has on the upper side a broad, dentated, slightly purplish-brown, longitudinal, central, brown band; one of the lateral indentations of this band (a little way behind the middle) is much deeper than the rest, some of which are often almost obsolete; the rest of the upper part, and the sides, are white, with a broad, rather irregular, lateral, longitudinal, brown band; the under side is brown, strongly tinged with yellow a little way in front of the genital aperture, and on each side of the hinder extremity is a short, perpendicular, dark-brown, stoutish streak. The central band on the upper side frequently has a series of white, indistinctly angular, bars along the middle.

The abdomen of the male is of a sub-cylindrical form, and is generally darker than that of the female; but its colours and markings are similar, though the sides are almost covered by the longitudinal, lateral, brown stripe.

This spider is nearly allied to the foregoing, but is much smaller, and the male has not the highly developed falces of that species, nor has the cephalo-thorax any central furcated brown



stripe; though not rare on low bushes, and low growing plants in woods and shubberies, it is by no means so abundant as *L. triangularis*, Clerck. Its snare is like that of the *Linyphiæ* in general.

Found in tolerable abundance at Bloxworth, and in many other localities in Dorsetshire. It also occurs in other parts of England, as well as in Scotland and Wales. The males may frequently be found running about, on fine early-summer days, on gravel paths, and in porches of houses, and verandahs.

#### LINYPHIA HORTENSIS.

LINYPHIA HORTENSIS, *Sund.*, Sv. Spindl. Beskr. in. Vet. Akad., Handl., f. 1829, p. 213.

„ PRATENSIS, *Blackw.*, Spid. Great Brit. and Irel., p. 215, pl. xv., fig. 141.

„ ALBICINCTA. *Camb.*, Zoologist 1863, p. 8577.

The length of the male is about 1-6th of an inch.

The caput rises gradually from the thorax, and the ocular region is a little prominent. The cephalo-thorax is of a rich dark yellow-brown colour, approaching to black on the caput, and the falces and sternum are of the same dark hue. The falces of the males are strong, prominent at their base in front, and covered in front and on their outer sides, with minute tubercular granulations; the legs are long, slender, and of an orange-yellow colour, tinged with brown, and the spines are short and fine. The legs of the female are much shorter and of a less bright colour. The palpi are short and of a darker hue than the legs, the digital joint and palpal organs being almost black; the radial joint is much stronger than the cubital, and has its fore extremity on the upper side somewhat produced, with some long slender bristles on the inner side, the cubital joint also is a little gibbous at its fore extremity, rather on the outer side; the digital joint is of moderate size, and the palpal organs are rather complex and prominent, with a spiral spine enveloped in membrane at their extremity.

The abdomen (of the female) is very glossy, and has on its upper side a broad, strongly dentated, somewhat maroon-brown, longitudinal, central band, broadly bordered with white. The sides are also dark maroon-brown, and each has a horizontal, white, irregular band; the two bands generally unite above the spinners, and usually also merge in that which borders the central brown band on the upper side. The under part is similar to the sides in colour.

The abdomen of the male is of a cylindrical form, and though, in the immature state and for a short time after attaining maturity, it nearly resembles that of the female in colours and markings, it becomes very soon of a uniform, deep, maroon-brown hue, with a bright white spot on each side near the anterior extremity.

Immature males of this species were described (Zool., 1863) under the name *Linyphia albicincta*, Cambr.

Found, but not very abundantly, in early summer, among coarse herbage and low plants in open places in woods at Bloxworth. It appears to be more common in some other parts of England and Wales, and has also been found in Scotland. The abdomen of the female often reflects somewhat metallic tints of violet and purple. It is nearly allied to *Linyphia peltata*, Sund.; but its larger size, darker hue, and the granulose surface of the palces of the male will serve to distinguish it readily. The adult males are not so easily met with as the females, appearing to lead, generally, a solitary and vagabond life.

#### LINYPHIA PUSILLA.

LINYPHIA PUSILLA, Sund., Sv. Spindl. Beskr. in. Vet. Akad.,  
Handl., f. 1829, p. 214.

„ FULIGINEA, Blackw., Spid. Great Brit. and Irel., p. 216,  
pl. xv., fig. 142.

The male measures from 1.5th to 1.7th of an inch in length.

In form, general structure and colours this spider nearly resembles *Linyphia hortensis*, Sund.; it is, however, usually smaller;

and the male, whose abdomen, both in form and colours, is strikingly like that of the species last named, may be distinguished with great ease by the structure of the palpal organs. These have a long, filiform, black spine issuing from their extremity on the inner side, and forming, on their outer side, a large, bold, prominent, circular bend, which projects considerably beyond them.

The abdomen of the female is yellowish-white on the upper part and on a portion of the sides, with three longitudinal, more or less irregularly dentated, dark, rich, slightly reddish-brown bands, one along the middle, and another on each side. Those on the side usually unite at their posterior extremities, and are joined there by the central band. There is, however, considerable variety in the perfection, form, and strength of these bands; in some examples they are very strong, and usurp most of the surface; in others they are quite narrow, and broken. The remainder of the sides, and the under part, are of a uniform, deep black-brown hue.

Found at Bloxworth, and in other localities in Dorsetshire, in tolerable abundance, among coarse grass and low plants in meadows, and in open places in woods and plantations, in the early summer time. It occurs also in other parts of England, as well as in North Wales and Scotland. Its snare is similar to that of its congeners.

GENUS *ERO*, *C. L. Koch*. *THERIDION*, *Bl.*, in part.

The remarkable little spider upon which this genus has been founded is included in the genus *Theridion* by Mr. Blackwall. It has certainly some characters in common with *Theridion*; but it has also others, of a striking nature, in common with the representatives of two other genera—one South European (*Ctenophora*, *Bl.*), the other exotic (*Galea*, *C. L. Koch.*)—differing, however, in various respects from them both; it is therefore here included in *Koch's* genus *Ero*, of which it was, until recently, the only known British representative.

The *cephalo-thorax* is short; the thorax is considerably higher than the caput, and slopes backwards very abruptly.

The *eyes* are as in *Theridion*—four in a central square, with a pair (the eyes of which are contiguous to each other), at a little distance, on each side of it, so that the eyes of the front row are, as nearly as possible, equi-distant from each other.

The *legs* are moderately strong and spinous; their relative length is 1.2.4.3.; those of the first pair are considerably the longest, and, with the second pair, are armed with a longitudinal series of long, strong, prominent, slightly curved spines on the inner sides of the tibiæ, metatarsi and tarsi, the intervals between these long spines being filled up with two or three others, in the same series, but much shorter; the posterior one the shortest, and the rest gradually increasing in length.

The *maxilla* are moderately long, not very strong, pointed at the extremity, very strongly inclined to the labium, over which their extremities almost meet.

The *labium* is triangular.

The *abdomen* is of an almost globular form, with two or more tubercular prominences on its upper side, and ornamented with various conspicuous colours and markings.

#### ERO THORACICA.

*THERIDIUM THORACICUM*, *Wid.*, Mus. Senck. Bd. 1, p. 218, Taf., xiv., fig. 11.

*THERIDION VARIEGATUM*, *Blackw.*, Spid. Great Brit. and Irel., p. 203, pl. xiv., fig. 134.

The length of the male is about 1-9th of an inch.

The *cephalo-thorax* is of a pale yellow colour, sometimes tinged with brownish; it has a distinct marginal border of black, with a short, longitudinal, central black line dilated near the middle into a somewhat cruciform or arrow-headed marking, and divided into two short branches just behind the eyes. Behind each lateral pair of eyes is also a somewhat diamond-shaped, black marking. These markings are less perfect in some examples than in others.

The falces are rather long, and strongly tinged with brown. The sternum yellow, variously marked with a black margin, or with black spots and patches. The legs are similar in colour to the cephalo-thorax, and distinctly annulated with dark yellow-brown. The palpi are moderately long, slender, and like the legs in colour. The radial joint is longer than the cubital, but has no projections or apophyses. The digital joint is of moderate size; its colour is yellow-brown, with a rather long, dark red-brown, curved, pointed, horn-like prominence at its base. The palpal organs are prominent, and complex, and have, among some other conspicuous processes, a filiform spine curved in a nearly circular form round their inner side.

The abdomen is short, and excessively convex above; it projects considerably over the base of the cephalo-thorax, and has two small, roundish, tuberculiform prominences in a transverse line a little in front of the middle of the upper side; the fore side of these tubercles is black, the hinder side yellowish-white. The rest of the abdomen is variegated with black, red, yellow-brown, and white, and its surface is furnished thickly with curved bristles of a spinous nature.

This pretty little spider is not very rare at Bloxworth among coarse grass and the débris of stems, sticks, and leaves in old hedge-rows, plantations, and shrubberies, as well as among heather and furze bushes. It occurs also in other parts of Dorsetshire, as well as of England, generally; and has been met with in Scotland and Wales. It constructs a beautiful little egg-cocoon, of a pear, or miniature balloon shape attached by a slender stalk to dead grass, stems, or bits of stick (sometimes to gate posts, and in the corners of verandahs and porches); its outer covering is a kind of coarse, irregular network of a dark, reddish, yellow-brown colour, enclosing a fine silken bag, in which the eggs, no more than six or eight in number, are loosely contained, *i.e.*, they are not gummed together as is the case with the eggs of some other spiders. I have found *Ero thoracica* in the adult state in early spring and throughout the summer.

## ERO TUBERCULATA.

ARANEA TUBERCOLATA, De. Geer., Mém. vii., p. 226, pl. 13, fig. 1-9.

ERO ATOMARIA, C. L. Koch., Die Arachn. Bd. xii, p. 106, Taf. 420, fig. 1033.

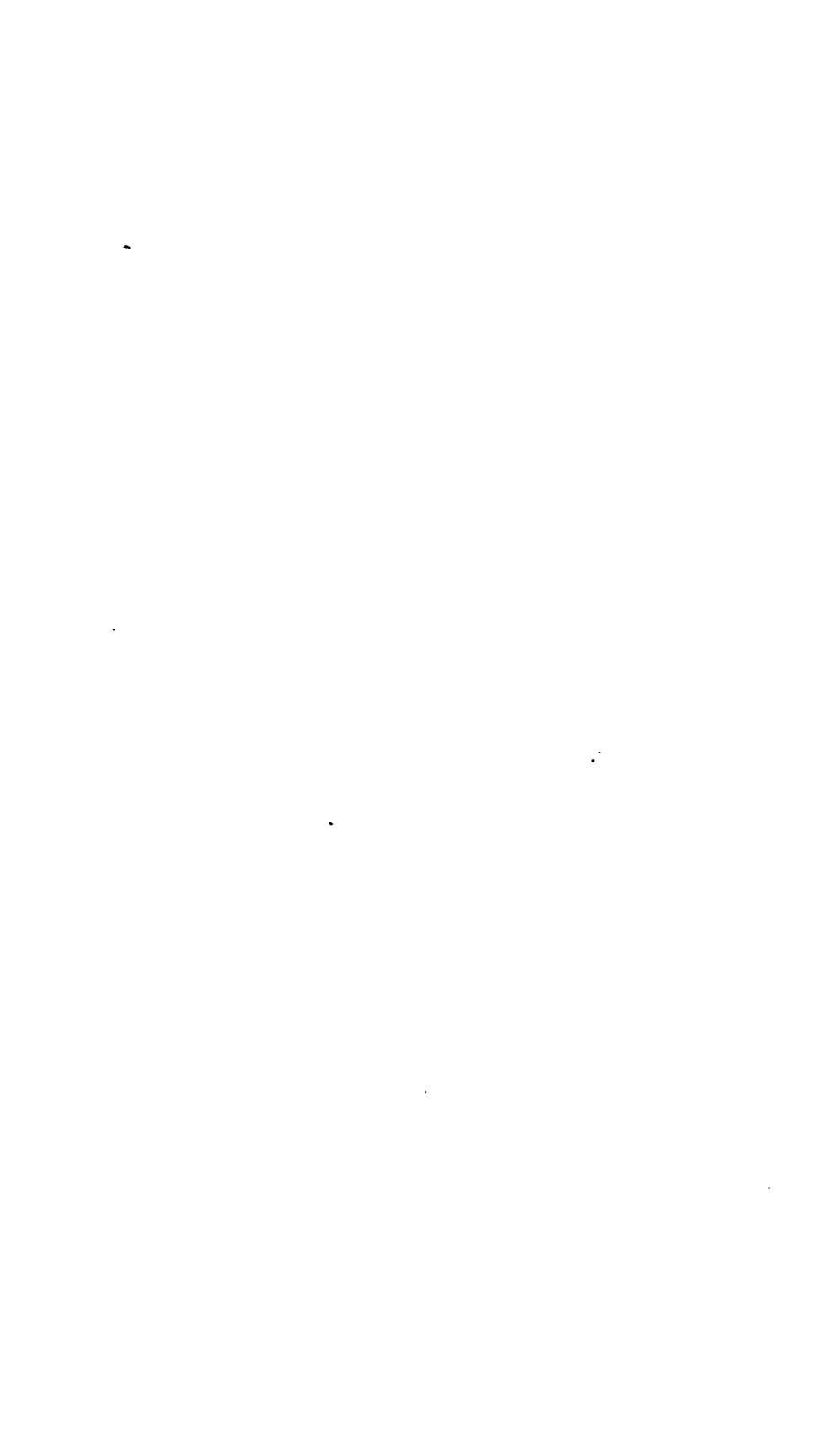
Length of the female  $1\frac{1}{2}$  lines. Male rather smaller.

Closely allied, and very similar, to *Ero thoracica*, C. L. Koch, but larger, and easily distinguished by having *four* sub-angular, tubercular, prominences of a *larger size* on the abdomen; two of them (the largest) are situated one on each side of its highest part, the other two are placed, one on each side of its posterior declivity, not quite half way to the spinners.

Found on Bloxworth Heath in September, 1878; and previously received from Wokingham, where it was found by the Rev. C. W. Penny, of Wellington College. This is its first record as a British spider.

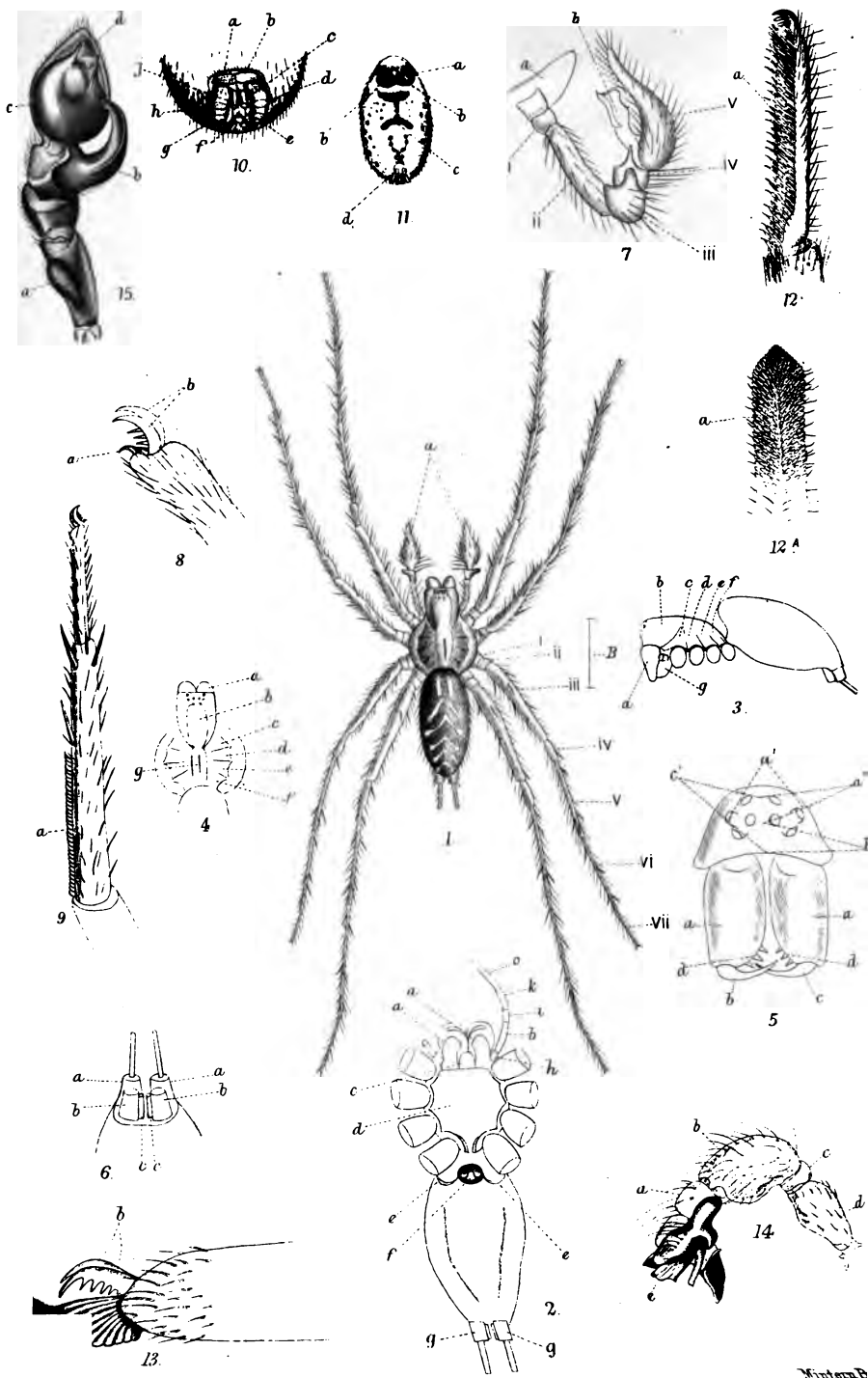








Pl. I.



## EXPLANATION OF PLATES.

### PLATE I.

Fig.

1. *Agelena labyrinthica*.—Adult male; full figure enlarged; *a*, palpi; i., exinguinal joint of leg; ii., coxal joint; iii., femoral joint; iv., genual joint; v., tibial joint; vi., metatarsal joint; vii., tarsal joint.
2. *Ditto*.—Adult female; Outline of underside, with legs and right palpus truncated; *a, a*, maxillæ; *c*, labium; *h*, axillary joint of palpus; *b*, humeral joint; *i*, cubital joint; *k*, radial joint; *o*, digital joint; *d*, sternum; *e, e*, openings of the ordinary spiracular organs; *f*, genital aperture; *g, g*, inferior pair of spinners.
3. *Ditto*.—Outline in profile, with legs and palpi truncated; *a*, one of the falces; *g*, one of the maxillæ; *b*, caput; *c, d, e, f*, soldered segments of thorax, corresponding on each side, with the number of legs, and their divisional lines, or indentations, and converging towards a central indentation (fig. 4 g.)
4. *Ditto*.—Outline of cephalo-thorax on upper side; *a*, falces; *b*, caput; *c, d, e, f*, soldered segments of thorax; *g*, thoracic indentation.
5. *Ditto*.—Outline of caput and falces from in front; *a, a*, falces; *b, c*, moveable fangs of falces; *d, d*, denticulations of falces; *c'*, facial space; *i, e*, space included between a line formed by the posterior eyes, and the fore margin of the caput, close to the falces; *a', a''*, ocular area; *b'*, clypeus.
6. *Ditto*.—Hinder extremity of abdomen, from beneath, showing *a, a*, superior spinners; *b, b*, inferior spinners; and *c, c*, central pair.
7. *Ditto*.—Palpus of male; *a*, maxilla; i., axillary joint; ii., humeral joint; iii., cubital; iv., radial; v., digital; *b*, palpal organs.

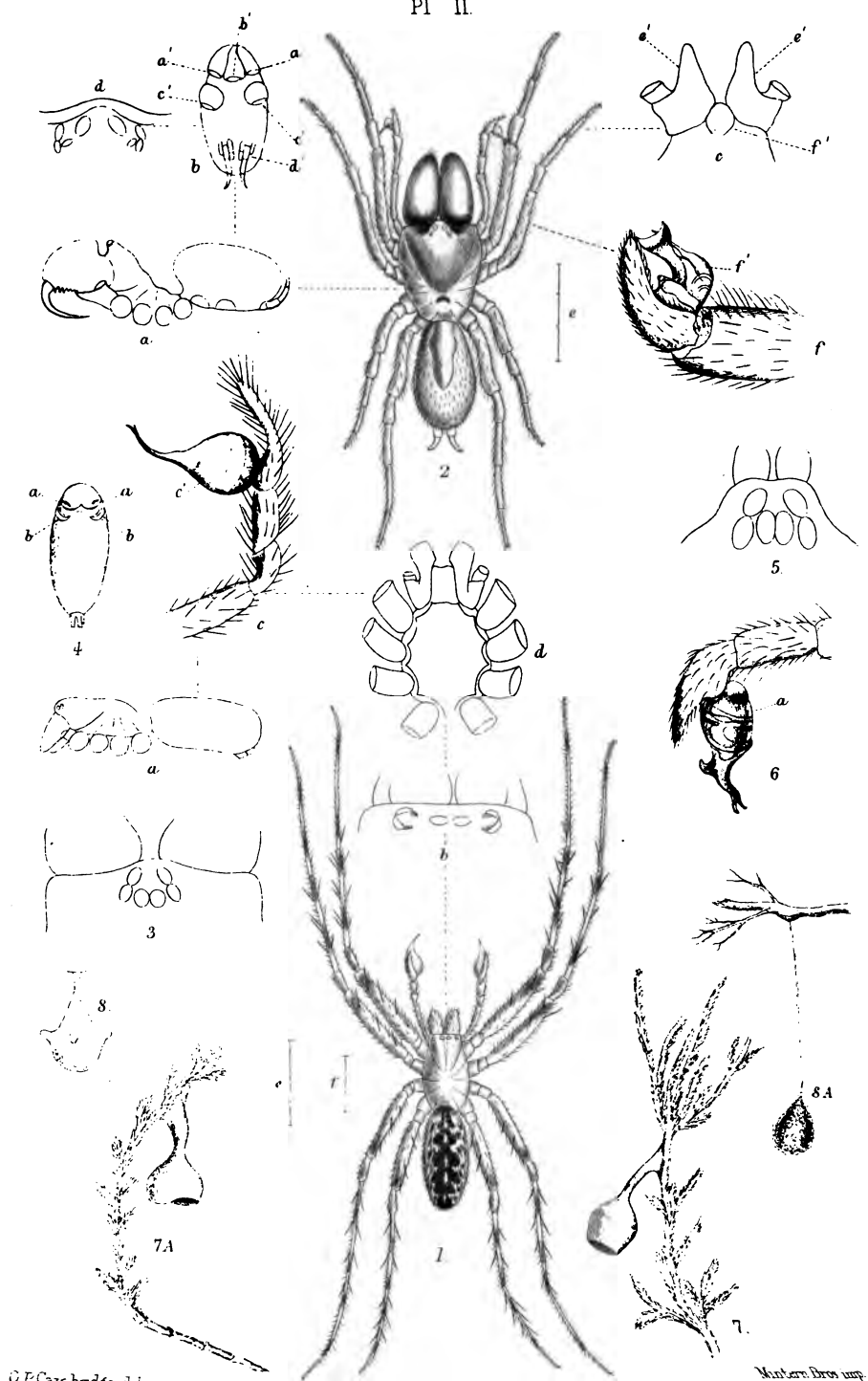
PLATE I. CONTINUED.

Fig.

8. *Ditto*.—Extremity of tarsus of one of the legs; *b*, superior terminal denticulated claws; *a*, inferior claw.
9. *Amaurobius similis*, Blackw., tarsal, and metatarsal joints of leg of fourth pair; *a*, series of curved spine-like bristles called the *calamistrum*.
10. *Ditto*.—Extremity of abdomen, from beneath and behind; *g, e*, superior pair of spinners; *d, h*, inferior pair; *c, j*, small central pair; *f*, anal tubercle and orifice; *a, b*, supernumerary spinning organs, always found in spiders furnished with the Calamistrum.
11. *Anyphæna accentuata*, Walck.—Under side of abdomen; *a*, genital aperture; *b, b*, ordinary spiracular openings; *c*, extraordinary spiracular opening; *d*, spinners.
12. *Drassus lapidicolens*, Walck.—Tarsal joint of one of fore legs; *a*, closely set papillæ-form and other hairs, forming the "*Scopula*," in profile.
- 12A. *Ditto*.—*a*, Scopula from in front.
13. *Philodromus dispar*, Walck.—Extremity of tarsal joint of one of the legs in profile; *b*, two terminal claws; *a*, cluster of papillæ-form hairs or *claw-tuft*.
14. *Pholcus pholangioides*, Fuessl.—Palpus of male; *a*, digital joint; *b*, radial joint; *c*, cubital; *d*, humeral; *e*, palpal organs.
15. *Phrurolithus festivus*, Koch.—Palpus of male; *a*, tubercular prominence, or apophysis, on humeral joint; *b*, radial apophysis, or projection issuing from radial joint; *d*, digital joint; *c*, palpal organs.



## Pl II.



## PLATE II.

*Fig.*

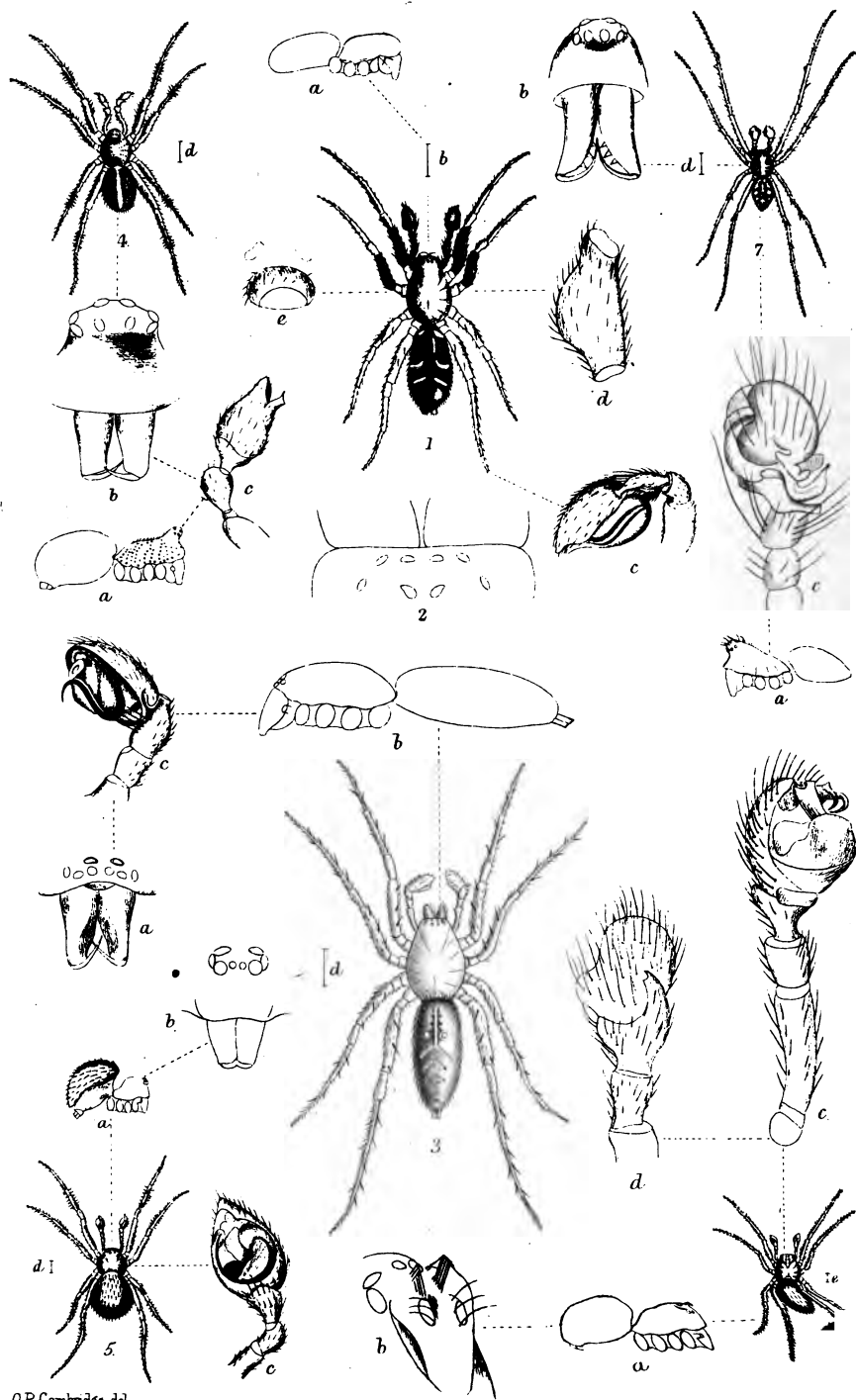
1. *Segestria Bavarica*, C. Koch.—Full figure magnified; *a*, outline in profile, with legs and palpi truncated; *b*, fore extremity of caput, showing the eyes; *c*, palpus; *c'*, palpal organs of ditto; *d*, under side of cephalo-thorax, with legs and palpi cut off, showing the *maxillæ*, *labium*, and *sternum*; *e*, natural length of female spider; *f*, ditto of male.
2. *Atypus piceus*, Sulz.—Full figure magnified; *a*, profile outline, without legs or palpi; *b*, under side of abdomen; *b'* genital aperture; *a', a'*, ordinary spiracular openings; *c', c'*, second pair of ditto, (belonging to family *Theraphosides*); *d*, eyes from above and behind; *e*, natural length of spider; *f*, digital, and part of radial joint of palpus; *f'*, palpal organs; *e*, fore part of sternum; *e', e'*, *maxillæ*; *f'*, *labium*.
3. *Dysdera Cambridgii*, Thor.—Fore part of caput, showing the eyes from above and behind.
4. *Ditto*.—Under side of abdomen; *a, a*, ordinary spiracular openings; *b, b*, second pair of ditto, (belonging to family *Dysderides*.)
5. *Oonops pulcher*, Templeton.—Fore part of caput, showing the eyes from above and behind.
6. *Dysdera crocata*, C. Koch.—Portion of palpus of male; *a*, palpal organs.
7. Egg cocoon of *Agroëca proxima*, Cambr., attached to a twig of heather.
- 7A. Egg cocoon of *Agroëca brunnea*, Bl. ?
8. Egg cocoon of *Theridion pallens*, Bl., enlarged.
- 8A. Egg cocoon of *Ero thoracica*, C. Koch, attached to a dead twig, and a little enlarged.

### PLATE III.

Fig.

1. *Drassus bulbifer*, Cambr.—*a*, Profile without legs or palpi ; *b*, natural length of spider ; *c*, external orifice of seminal vessels ; *d*, humeral joint of palpus ; *e*, digital, radial, and cubital joints, showing palpal organs and the radial apophysis.
2. *Drassus lapidicolens*, Walck.—Eyes from above and behind.
3. *Clubiona reclusa*, Cambr. —*a*, eyes and falces from in front ; *b*, profile outline ; *c*, palpus ; *d*, natural length of spider.
4. *Steatoda sticta*, Cambr., — *a*, profile outline ; *b*, fore part of caput, showing the eyes and falces ; *c*, palpus ; *d*, natural length of spider.
5. *Pholcomma gibbum*, Westr.—*a*, profile ; *b*, fore-part of caput, showing eyes and falces ; *d*, natural length of spider.
6. *Walckenaëra diceros*, Cambr.—*a*, profile outline ; *b*, fore part of caput from above and rather behind, greatly magnified, showing position of the eyes, and the two horn-like tufts of bristles in the middle of the ocular area ; *c*, palpus from above ; *d*, ditto, underneath ; *e*, natural length of spider.
7. *Linyphia setosa*, Cambr. —*a*, profile outline ; *b*, caput in front, showing eyes and falces ; *c*, palpus from above ; *d*, natural length of spider.

Pl. III.







## ERRATA ET CORRIGENDA.

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Page ix., line 5 from top, for *elaw* read *claw*.

- „ xxv., line 3 from bottom, for *venomcus* read *venomous*.
- „ xxxii., top line, for *larva* read *larvæ*.
- „ xxxix., line 8 from top, for *causes* read *causing*.
- „ 1., line 3 from top, *erase the comma at the end, and place it after the word it*.
- „ 5, line 3        „     for *thoræica* read *thoracica*.
- „ 5, line 6        „     *place a bracket after rarity*.
- „ 8, line 12       „     for *curved* read *armed*.
- „ 19, line 12     „     for *serie* read *series*.
- „ 25, line 3       „     for *cresent* read *crescent*.
- „ 37, line 10     „     for *rushes* read *stalks of various plants*.
- „ 52, line 3       „     *after longitudinally insert on the fore half*.
- „ 54, line 2       „     for *wel* read *well*.
- „ 57, line 5       „     for *This the* read *This is the*.
- „ 81, bottom line, *erase and at the beginning of the line*.
- „ 82, line 8 from top, for *Aranæ* read *Aranææ*.
- „ 90, line 17     „     *after Irel. insert p. 191, pl. xiv., fig. 122*.
- „ 111, line 13    „     for *This not* read *This is not*.
- „ 113, line 18    „     for *rehdish* read *reddish*.
- „ 120, line 6 from bottom, for *which almost* read *which is almost*.
- „ 127, line 11    „     *after with insert a*.
- „ 128, line 6 from top, for *largeish* read *largish*.
- „ 129, line 7 from bottom, for *FUCIPALPIS* read *FUSCIPALPIS*.
- „ 135, line 6 from top, for *larger* read *smaller*.
- „ 141, line 18    „     for *o* read *of*.
- „ 144, line 11    „     for *fonnd* read *found*.
- „ 150, line 18    „     for *oöcurs* read *occurs*.
- „ 152, line 7     „     *erase bracket after prominently*.
- „ 198, line 13    „     for *flacipes* read *flavipes*.
- „ 204, line 17    „     for *n* read *on*.
- „ 213, line 11    „     for *femora* read *tibiæ*.





